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ABSTRACT

To provide a writing pedagogy grounded in theory, a teaching method was developed which sequenced certain types of assignments. The classification of types and the organizational structure of the sequences were based on a teaching model that draws upon theories from various disciplines. Although the teaching activities are not new in themselves, what is new is the teacher's awareness of purposes underlying these activities. The pedagogy aims at improving thinking through writing. It is based on two models, one educational-cognitive-developmental, the other one logical-rhetorical. The educational theory model is expanded with cognitive developmental theories to create a social constructionist based model for cognitive and ethical growth for ages 18 and beyond. A logical model for informal argument is expanded with rhetorical theories to create a social-constructionist based model for communication. The developmental model and the argument model are then connected through the pedagogy: the sequence in which the argument model is taught corresponds closely to the phases of the developmental model. Furthermore, the teaching sequence is geared to systematically address conventional composition concerns such as invention, organization, revision, and concern with audience. Four possible applications of the pedagogy are presented as guidelines for teachers. The pedagogy relies on reading to introduce and on writing to explore different perspectives on a variety of topics. Because of its emphasis on the relationship between reading and writing, the pedagogy lends itself to use in freshman composition as well as across the curriculum on all levels. (Contains 46 references and 4 appendixes with pedagogical models.) (Author/NKA)

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A PEDAGOGICAL THEORY AND PRACTICE FOR COLLEGE WRITING COURSES AND WRITING ACROSS THE CURRICULUM COURSES: A SOCIAL CONSTRUCTIONIST PERSPECTIVE ON LEARNING THROUGH ARGUMENT

BY

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B.A., New England College, 1981
M.A., Western Illinois University, 1983

A Dissertation
Submitted to the Faculty of the
Graduate School of the University of Louisville
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for the Degree of

Doctor of Philosophy

Department of English
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ABSTRACT

The purpose of this study is to provide a writing pedagogy grounded in theory. The teaching method I developed consists of sequencing certain types of assignments. The classification of types and the organizational structure of the sequences are based on a teaching model that draws upon theories from various disciplines. The teaching activities that constitute the pedagogy are not new in themselves. What is new is the teacher's awareness of purposes underlying these activities.

The pedagogy aims at improving thinking through writing. It is based on two models, one educational-cognitive-developmental, and one logical-rhetorical. In the first two chapters, a model from educational theory is expanded with cognitive developmental theories to create a social constructionist-based model for cognitive and ethical growth for ages 18 and beyond. In the third chapter, a logical model for informal argument is expanded with rhetorical theories to create a social constructionist-based model for communication. The developmental model and the argument model are then connected through the pedagogy: the sequence in which the argument model is taught corresponds closely to the phases of the developmental model. Furthermore, the teaching sequence is geared to systematically address conventional composition concerns such as invention, organization, revision, and concern with

audience. In the fourth chapter, four possible applications of the pedagogy are presented as guidelines to college-level writing teachers.

The pedagogy relies on reading to introduce and on writing to explore different perspectives on a variety of popular topics. Because of its emphasis on the relationship between reading and writing, the pedagogy lends itself to use in freshman composition courses as well as across the curriculum courses on all levels. In general writing courses, the pedagogy can be used to discover and teach the habits of mind and of presentation necessary in academia, to help students traverse their college careers more effectively. In across the discipline writing courses, the pedagogy can be used to analyze the more specialized habits of mind and presentation of individual academic disciplines, from a rhetorical, humanities-based perspective.

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PREFACE

The purpose of this study is to provide a writing pedagogy grounded in theory. The teaching method I developed consists of sequencing certain types of assignments. The classification of types and the organizational structure of the sequences are based on a teaching model that draws from theorists in disciplines that traditionally have influenced the field of composition: cognitive developmental theory, rhetorical theory, literary theory, theory of education, philosophy, and linguistics. The teaching activities that constitute the pedagogy are not new in themselves. What is new is the teacher's awareness of purposes underlying these activities.

The field of composition is, as is frequently remarked in professional articles and at conventions, still in a state of shaping itself. Often composition teachers, as well as composition theorists, find that certain teaching methods and approaches work, but equally often we do not know why they work. One of my readers, Dr. Dale Billingsley, compared this phenomenon with the success of Charlemagne's agricultural programs, where farmers began to rotate crops. At the time, it was clear that crop rotation was a successful strategy to increase production, but it was not clear why it worked. Today, the field of agriculture has developed to where the theoretical understanding of crop rotation can explain its success. This theoretical understanding has led to a more efficient use of the strategy. The theoretical understanding of a practical method has added to the versatility, applicability, and efficiency of the practice. My intention in this study is to attempt to explain why some of the teaching methods many composition teachers use are successful. I hope that the theoretical model I develop in this study will help improve the versatility, applicability, and efficiency of current teaching methods.

I should add that the development of the teaching model I explain in this study did not come about purely to justify conventional teaching practices. Rather, reading certain theories led me to try certain approaches to classroom activities. The success or failure of these approaches led to questions, which led to more reading, and to re-thinking the practical implications of my reading. Thus my theoretical model and my teaching strategies developed in an interactive, parallel pattern.

The pedagogical model that resulted from this process of reading, teaching and (re-)evaluating, is based on theories from diverse disciplines. The theories that are most instrumental in shaping the pedagogy derive from education, cognitive developmental psychology, literary criticism, logic, and rhetorical theory. The study is organized to show how my teaching model derives from interrelating theories from these fields. The first chapter explores the relationships of an educational model (developed by William Perry) and a cognitive developmental theory (developed by Lev Vygotsky). The second chapter explores how the work of other, more current cognitive developmental theorists (Luria and Vygotsky) and the work of literary critics (Fish, Barthes) add to the structure developed in Chapter One. In the third chapter, I add logic (based on Toulmin's informal argument model) and new rhetorical theories of argument (by Booth, Perelman, and Burke). I conclude the theoretical part of the dissertation by presenting the teaching model that emerges from my examination of these theories. In Chapter Four, I then present examples of the teaching sequences that the model suggests, and show how the individual assignments as well as their sequence are intended to reflect the goals of the pedagogical model.

One of the reasons I started this study is because I wanted to explore the relationship between thinking, learning, and writing. Despite the vivid interest in the field in these relationships, there is no coherent explanation of these relationships for the age group I have been most involved with: college age students. To this end, I examine cognitive developmental theory and educational theory that studies development at the college age. I am particularly interested in highly complex cognitive development, which involves not just the manipulation of generalizations and abstractions, but the manipulation of abstract complexes. Abstract complexes involve a large amount of interrelated concepts and abstractions. Examples of abstract complexes are the political relationships within the organizational structure of a university department or a company, or the economic and military considerations behind foreign policy of the U.S.A. the Persian Gulf.

My explorations suggest that several forms of writing lend themselves well to teaching control over abstract complexes, including argumentation, syntheses, critiques, and so on. In the pedagogy, many forms of writing are explored, but the focus is on argumentation. I chose to focus on argument because the theories I explored suggested that this form of communication is more vital than we generally realize. An important connection between the various theories I explore in this study is that all are based on, or can be understood as based on, a social constructionist epistemology. This epistemology entails an understanding of the world as a place where truth, meaning, and knowledge are constructed by agreement among communities of people. This perspective stands in contrast to the positivist epistemology, which understands the world as a place where humans must discover the absolute truth through rigorous application of reason. The theorists I studied (predominantly Fish and Booth) suggest that a social constructionist perspective entails that the main mode of communication among communities is persuasive because the epistemology denies the possibility of objective verification. Hence communication must consist of the attempt to convince others, rather than of an attempt to prove an objective truth. Since argumentation and persuasion play such a dominant role in the social constrctionist perspective, I chose to center my pedagogy around writing as persuasion.

When I began this study, I intended to develop a pedagogy and test the validity of its goals. However, it soon became clear that the goals of the pedagogy needed to be grounded in theory. The exploration of theory was so vital that it needed to be addressed first, and was so extensive that it has taken up the time allotted for this project. In the near future, I hope to be able to construct a research project that will test the validity of the goals in teaching writing that this study explains.

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CHAPTER ONE

A DEVELOPMENTAL MODEL AS THE BASIS FOR A PEDAGOGY

I. WILLIAM PERRY'S COGNITIVE DEVELOPMENTAL MODEL

Much of contemporary composition theory makes use of studies in cognitive psychology. The traditional method of teaching writing focussed largely on the form and style of the final product. In the late sixties and early seventies, some researchers began to express the objection that this method of teaching writing meant a formulaic reductionism, which led to insufficient focus on the quality of thought presented in a paper. These researchers developed a new interest in psychology, particularly in the branch that studied thinking and learning: cognitive psychology. From cognitive psychology, they hoped to glean insight in the relationship of thinking, learning, and writing. They sought to improve the effectiveness of teaching writing, that is, the writing of thoughtful, interesting papers instead of merely correct ones, by trying to develop a better grasp on how an individual learns to think. By basing the teaching of writing on a learning model developed by psychologists, they hoped to be able to create a kind of synchronisation between a student's natural cognitive growth and the writing curriculum, so that a writing teacher would have a better idea of the kinds of thinking abilities she could expect at a given point in the student's development.

Thus pioneers like Moffett and Britton based their pedagogical models on the developmental theories of Piaget. Moffett's development from inner monologue to dialogue to anonymous narration, where the focus of language moves from self to other, from inner to outer, is informed by Piaget's principle of decentration from the ego. Likewise, Britton's development from expressive to transactional, where language, similar to Moffett's model, is increasingly objectified, is informed by the same Piagetian principle of decentration. The connection of developmental psychology with composition theory and practice was one of the causes of a revolution in the field of composition, leading to a paradigm shift where the current-traditionalist emphasis on product has been rejected by most researchers in favor of the process approach. While this revolution has certainly been beneficial to the field as a whole, many recent theorists have been re-evaluating some of the effects of this revolution on pedagogical strategies.

One of the problems with the influence of Piaget on composition is that while Piaget's formative stages end approximately at age 18, many composition theorists work in a college or university environment with students of 18 and older. Moffett and Britton, who for many practitioners are the primary sources of information on Piaget, also concentrated on the elementary and high school age groups. Moffett's curriculum is intended for the child's entire school career, from grade one through twelve, while Britton's work was primarily conducted in a high school environment. The developmental sequences that Moffett and Britton designed were intended for students ages 6 through 18, yet these same sequences are currently used in college level composition classrooms all over the country.

This discrepancy is compounded by the oversimplified use of Moffet and Britton's developmental sequences in many college-level composition text books. Frequently, one finds texts translating the developmental sequences into sequences of activities that deny the recursiveness of the original models. For example, Cowan and Cowan's Writing, an influential composition text, moves from personal experience narratives to objective reports to informative and explanatory essays to evaluation, argumentation, and persuasion. This sequence is a linear representation of Moffett and Britton's developmental models. Texts such as Cowan and Cowan's in effect ignore the recursive nature of the processes Moffett and Britton described. Moreover, such texts are condensing the entire developmental sequence of Moffett and Britton into one or two semesters of freshman composition. Thus, composition teachers seem to be applying a developmental model and subsequent strategy to an age group that was not included in the population supporting the original developmental research. Adopting Moffett and Britton's sequence at the college level implies that college teachers assume that no further cognitive development takes place at the college level, so that they are educating developmentally finished products. This assumption needs investigation before we can build upon it.

Only a limited amount of research has been done on cognitive development for ages 18 and beyond. The model for post-18 cognitive development that is most appealing as a heuristic for college writing teachers has been created by William Graves Perry, Jr., based on a longitudinal but small scale study at Harvard described in his *Forms of Intellectual and Ethical Development in the College Years: A Scheme.* Between 1953 and 1964, Perry studied the changes in world view of students from Harvard and Radcliffe, based on a survey followed by a series of interviews. Patricia Cross, while admiring Perry's theory, comments that Perry's scheme has been "largely untested" (157). She also objects that while Perry tested 82 male students, he tested only 2 females (154). It is unclear where Cross obtained these numbers, but they are inaccurate. According to Perry, he studied a total of 112 males and 28 females (16). Admittedly, this is still a small sample of female students. However, I intend to use Perry's model as a representation of the kind of development academics expect from the members of their community. In this context, a distinction between male and female is not significant.

While Perry's sample is narrow in that it includes only Harvard and Radcliffe students interviewed on a voluntary basis, and in that there are relatively few females in the sample, his study is, within its sharply defined parameters, both enlightening and useful. Not only does Perry develop a model for the development for college age students, but his model combines a basis in cognitive psychology with the fundamental humanistic concern for ethical development of students. Some studies have been done in post-formal stages, such as in "Systematic and Metasystematic Reasoning: A Case for Levels of Reasoning beyond Piaget's Stage of Formal Operations," by Commons, Richards and Kuhn. Such studies are strictly within the Piagetian framework in that they address cognitive development exclusively. Other scholars, such as Kohlberg and Wilkinson, have attempted to address moral as well as cognitive development. However, Kohlberg's model, like Piaget's, addresses students up to age 18. And, more importantly, Kohlberg as well as Wilkinson separate moral and cognitive development.

Perry's model is unique in that it integrates moral and cognitive development. This combination of a social science perspective with a humanist perspective is particularly attractive to composition teachers, who often themselves combine a humanist background with a new interest in social scientific perspectives. Moreover, Perry's model provides a systematic account of the kinds of student attitudes college level composition teachers frequently encounter. Perry's systematic account allows the composition teacher to approach such attitudes from a developmental point of view, as part of the learning process. Accounts like those of Piaget, Wilkinson and Kohlberg, which all assume that ethical perspectives are essentially separate from cognition, suggest that students' ethical perspectives may or may not be deserving of the teacher's attention. Using Perry's model as a heuristic for structuring class activities will allow the writing teacher to make productive use of a student's ethical perspective.

Patricia Bizzell notes that Perry's scheme is deceptively similar to Piaget's cognitive developmental scheme. She points out that while Perry borrowed the concept of development, he differs from Piaget in two respects. In Perry's scheme the development is a conscious activity, while for Piaget the development is a "natural unfolding", "without much possibility of . . . altering the course of development." Also, Perry is concerned, says Bizzell, with "philosophical assumptions," while Piaget is concerned with cognitive stages (449). She concludes that Perry's scheme describes an "educationally induced development," because "Perry's analysis describes the changes in student thinking that result from their socialization into the academic community" (450, 452).

Indeed, Perry and Piaget present different models of cognitive development with different ideas about what teachers can and should do. As is evident from the context in which his model was created, Perry is concerned with the effects of the cultural environment on the thinking processes of students. Perry believed that an important aspect of college experience is the confrontation with cultural pluralism and the relativism which "permeates the intellectual and social atmosphere of a pluralistic university" (4). His studies on the kinds of examination questions asked in a variety of disciplines between 1900 and 1960 showed a marked increase in questions that expected more than one frame of reference, illustrating the increasing emphasis on relativism and pluralism in the university context. To discover how this confrontation affected students' thinking, he set up a study which consisted of two stages.

Based on Adorno's research on The Authoritarian Personality ('50) and G. G. Stern's Inventory of Beliefs ('53), he devised a measure called A Checklist of Educational Views (CLEV). This checklist consisted of statements which students would rate for degree of agreement and for degree of difficulty of decision (69). The statements reflected attitudes toward teachers, peers, and class content. Examples of CLEV statements reflecting attitudes toward teachers are: "If professors would stick more to the facts and do less theorizing one could get more out of college," and "College professors should remember more often that men of action are more important in a society than intellectuals and artists." Examples reflecting attitudes toward peers are: "Students sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down" and "The most immoral thing about the lazy student is that he is letting his parents down." An example of a CLEV statement reflecting attitudes toward class material is "There is nothing more annoying than a question that may have two answers" (65). Approval of the quoted statements would place the student in the Dualist phase of development.

The checklist was administered to a random sample of over 300 freshmen in 1953, and again to the same students three semesters later. From this sample, 55 students were selected to be invited for interviews; 31 responded. Experimenters asked for important experiences during the year, and for examples and explanations, so that the interviews would be competely open-ended. The interviews were repeated yearly, which resulted in a total of 98 taped interviews, including 17 complete four year records. The whole experiment was repeated in '62 and '63, but this time students were randomly invited for interviews. This process yielded 366 interviews, including 67 complete four year reports. The aim of the interviews, as of the CLEV test, was to discern students' attitudes toward their experiential worlds, and to note if and how changes of perspective occurred.

From his research, Perry abstracted a developmental scheme consisting of nine stages. The main line of development is as follows:

Position 1: The student sees the world in polar terms of we-right-good vs other-wrong-bad. Right Answers for everything exist in the Absolute, known to Authority whose role is to mediate (teach) them. Knowledge and goodness are perceived as quantitative accretions of discrete rightnesses to be collected by hard work and obedience. (paradigm: a spelling test)

Position 2: The student perceives diversity of opinion, and uncertainty, and accounts for them as unwarranted confusion in poorly qualified Authorities or as mere exercises set by Authority "so we can learn to find the answer for ourselves."

Position 3: The student acccepts diversity and uncertainty as legitimate but still *temporary* in areas where Authority "hasn't found the Answers yet." He supposes Authority grades him in these areas on "good expression" but remains puzzled as to standards.

Position 4: a) The student perceives legitimate uncertainty (and therefore diversity of opinion) to be extensive and raises it to the status of an unstructured epistemological realm of its own in which "anyone has a right to his own opinion," a realm which he sets over against Authority's realm where right-wrong still prevails, or b) the student discovers qualitative contextual relativistic reasoning as a special case of "what They want" within Authority's realm.

Position 5: The student perceives all knowledge and values (including authority's) as contextual and relativistic and subordinates dualistic right-wrong functions to the status of a special case, in context.

Position 6: The student apprehends the necessity of orienting himself in a relativistic world through some form of personal Commitment (as distinct from unquestioned or unconsidered commitment to simple belief in certainty).

Position 7: The student makes an initial Commitment in some area.

Position 8: The student experiences the implications of Commitment, and explores the subjective and stylistic issues of responsibility.

Position 9: The student experiences the affirmation of identity among multiple responsibilities and realizes Commitment as an ongoing, unfolding activity through which he expresses his life style (Perry 9-10).

Perry notes that students generally do not adopt a stage completely in all the areas of their thinking; rather, a stage is accepted area by area, gradually, or in leaps and bounds. To say that a student is in a particular stage means that the student has adopted a particular stage in most areas of thought. Perry also points out that students do not move linearly through this sequence. He describes three conditions of delay: temporizing, where "the student delays in some position for a year, exploring its implications or explicitly hesitating to take the next step"; retreat, where "the student entrenches in the dualistic, absolutistic structures of Positons 2 or 3"; and escape, where "the student exploits the opportunity for detachment offered by the structures of Positions 4 and 5 to deny responsibility through passive or opportunistc alienation" (10).

The nine stages can be categorized into three groups: Dualism, where right-wrong thinking and reliance on Authority dominates; Relativism, where the plurality of experience is acknowledged though not happily received; and Commitment, where the answer to the confusion of a world without absolutes is found in personal verification of values and voluntary attachment to individuals, groups, and traditions that share the values distilled from such self-examination.

One difference, then, from Piaget's theories is that Perry studied student development as a function of a social environment, the college environment, while Piaget saw growth as a result of biology. A second difference between Piaget's and Perry's work is the precise object of study. Piaget studied cognitive development. Perry is less clear about what exactly he studied. Perry calls it, in his title, _Forms of Intellectual and Ethical Development,_ i.e., not just intellectual but also ethical forms of development. Perry does not attempt to untangle the ethical from the intellectual in these "forms." In the Preface, Perry states his model traces the "_forms_ in which a person perceives his world" (ix). These forms are both ethical and intellectual: "these 'forms' characterize the structures which the students explicitly or implicitly impute to the world, especially those structures in which they construe the nature and origins of knowledge, of value, and of responsibility" (1). The ethical and intellectual are interdependent. Perry is interested in patterns of thought; that these patterns are also moral in nature, and have been learned through social interaction, does not take away the fact that they are rooted in cognitive processes. The

Dualist, Relativist, and Committed Relativist stages not only describe the structure of the value system of an individual, they are also ways of organizing experience. Developmental psychologist Jerome Bruner describes cognitive strategies as forms used to reduce the influx of impressions to a manageable units (Relevance 4). This is precisely what Perry's stages are: strategies that organize experience into manageable forms.

Bizzell refers to the object of Perry's study as philosophical assumptions, perhaps because Perry uses that term as a synonym for "forms". However, she fails to recognize what makes Perry's model so uniquely attractive to composition teachers: the fact that Perry intertwines the scientific and the humanistic by intertwining the cognitive and the ethical. His model illustrates how, at least for college age students, the ethical and the intellectual are functionally interdependent. Writing teachers can use Perry's model effectively by taking advantage of the meshing of intellectual and ethical forms in this model.

II. DESCRIPTIONS AND EXPLANATIONS: PERRY AND VYGOTSKY

Perry's model has the potential of forming a useful heuristic for a writing pedagogy because it assumes that cognitive and ethical development are intertwined, an assumption that would allow composition teachers to address student attitudes and abilities in one coherent framework. However, Perry does not justify his assumption very well; it is described, but not explained. I want to explore the work of several other theorists, beginning with Vygotsky, to show that Perry's assumption can be explained. Thus I hope to thoroughly ground Perry's model in a theoretical framework before I use its structure to develop a teaching strategy.

The intertwining of the moral and the cognitive in Perry's model seems at first confusing, because while we can probably accept without too much difficulty that ethics are determined by social environment, we are inclined to think that intelligence is hereditary, biological, and therefore unrelated to ethical development. The notion that intelligence is biological has been reinforced in our consciousness by Piaget. For this reason, Piaget does not seem to be the most helpful theorist to explain Perry's model. It may be much more productive to see Perry's model as related to the work of the Russian cognitive psychologist L. S. Vygotsky. He, like Perry, focusses on the relationship of cognitive development and social environment. Unlike Perry, he discusses this relationship explicitly. Perry does not cite Vygotsky in his text or in his bibliography, so, presumably, was not familiar with his work. Nevertheless, Vygotsky's attempt to explain cognitive development as largely socially determined will allow us to better understand Perry's model, because if cognitive development is indeed shaped by social interaction, then Perry's linking of ethical and intellectual growth as concurrently shaped by social environment makes sense.

Another reason for linking Perry's and Vygotsky's work stems from a methodological division in the social sciences. Traditionally, the social sciences were primarily interpretive in nature. Only in the twentieth century do we find social scientists employing the quantitative, empirical and formal research methods typical of the natural sciences. Cole and Scribner, in their introduction to Vygotsky's Mind in Society, call the empiricist methodologies in the social sciences the "naturalist" school of thought, and the interpretive, humanities-based methods the "mentalist" school of thought. Cole and Scribner note that the mental scientists were more able to describe cognitive functions, while the natural scientists were more successful in explaining them. In Vygotsky, we find an attempt to synthesize the two positions (Cole and Scribner in Vygotsky's Mind 5-6).

Particularly during the first half of this century, American and Russian social studies were primarily empirical in nature, modeled on the natural sciences, while social studies in Germany were primarily interpretive in nature, modeled on the humanities. Both Perry and Vygotsky were influenced by German thinkers. Michael Cole explains that Vygotsky, who worked at the time of the Russian Revolution, went to the German thinkers because contemporary Russian psychology did not satisfy him. Russian scientists during this period were interested in establishing a connection between social history and cognitive development. In accordance with this goal, Russian psychologists had worked out a stimulus-response theory very similar to Skinner and Pavlov's concomitant work in behaviorist theory. This theory was highly effective for explaining elementary psychological processes as formed by social environment, but it did not explain the more complex cognitive processes such as abstract problem solving or voluntary memory. Vygotsky went to the generally mentalist oriented German thinkers, notably to Gestalt theory, for a solution to this problem. He conceived of the notion of inner representation or "mediation" of stimulus-response as the characteristic feature of human consciousness. He argued that man is not only affected by his environment, but also by his own relationship to that environment. Man's tools to affect the environment become signs that are in turn also used to affect his own behavior (Cole in Luria xi-xii).

Vygotsky's notion of mediation is, in fact, only one and a half steps removed from the naturalist perception of man's relations to his environment. In "What is Man?", Skinner explores the question of man's autonomy according to behaviorist theory. He concludes that according to the stimulus-response theory, man is indeed controlled by his environment, but that, conversely, man controls his environment through culture. Disputing the notion that behaviorism leaves man a victim of his environment, Skinner says:

> Man himself may be controlled by his environment, but it is an environment almost wholly of his own making. The physical environment of most people is largely man-made.The surface a person walks on, the walls which shelter him, the clothing he wears, many of the foods he eats, the tools he uses, the vehicles he moves about in, most of the things he listens to and looks at are human products. The social environment is obviously man-made -- it generates the language a person speaks, the customs he follows, and the behavior he exhibits with respect to the ethical, religious, governmental, economic, educational, and psychotherapeutic

> institutions which control him. *The evolution of a culture is in fact a kind of gigantic exercise in self-control.* As the individual controls himself by manipulating the world in which he lives, so the human species has constructed an environment in which its members behave in a highly effective way . . . man . . . is what man has made of man (Skinner 311-312; italics mine).

The notion that social environment affects humans is accepted in behaviorist theory. Also accepted is the notion that humans control the behavior of their species through social interaction. Vygotsky removed himself one step from traditional naturalist thinking in his assumption that the tools with which humans shape their environment affect humans through mediation. The notion of mediation or inner symbolic representation is clearly not naturalistic. Yet, as we shall see later, the idea that inner representation is socially constructed, i.e., learned through social interaction, is only half a step removed from the naturalist perception that a human-made social environment affects human behavior. And Vygotsky's notion that those inner representations in turn affect human behavior clearly derives from naturalist thinking again. Hence, with the concept of mediation, Vygotsky managed to establish a connection between the empirically-based "naturalist" approaches to psychology and the humanistically-based "mentalist" schools of thought.

Perry, on the other hand, is primarily influenced by the "mentalist" schools of thought. A major influence on Perry is Erik H. Erikson, seven of whose works Perry cites in his bibliography. Erikson, a German scholar who escaped to America in the early thirties with the rise of Hitler, is a developmental psychologist with strongly Freudian roots. Erikson's eight stage developmental model describes the development of the individual's ego from birth to old age. The stages are each characterized by a major identity crisis, which, if succesfully conquered, leads to the development of new "ego qualities" or personality characteristics. Successful passage through a stage means the ego has proved to be "strong enough to integrate the time table of the organism with the structure of social institutions," i.e., the ego has balanced the pressures of the id and the super-ego (Childhood 246). From successful passage emerge, according to Erikson, "vital virtues," such as social trust, hope, and love. Erikson's fifth stage, identity versus role confusion, which occurs during adolescence, bears striking similarities to central principles in Perry's model.

In Erikson's fifth stage, the most crucial of his scheme, the individual is to form a sense of identity, and begins to see herself as a product of her personal experiences. Through testing of reality and striving for self-knowledge, the individual attempts to find a "social fit" or a solidarity with the ideals of a particular group, such as a political or religious affilation, or a profession. The virtue that emerges if the stage is traversed successfully is fidelity to the social niche the individual chooses to belong to, in the face of contradictory value systems (Berzonzky 447). The adolescent's search for identity, says Erikson, occurs through concern with self-image on the one hand, and with the way they appear to others on the other hand. They have a strong ideological outlook, because they aspire to seek confirmation through programs, rituals, and creeds that provide a moral definition of the world. Consequently, they are characterized by clannishness, a tendency to stereotype, and by intolerance towards others. Erikson explains that this intolerance is probably a defense against identity confusion, and emphasizes their vulnerablity at this stage to totalitarian political ideologies (*Childhood* 261-62). He maintains that at this point in the individual's development, a democracy has the responsibility of making its ideals appealing. Fidelity, the "vital virtue" of this stage, can be a rejuvenating force in a society's political process, because the individual is ready to commit her energies and loyalty (*Youth* 133, 233-35).

Like Erikson, Perry poses that commitment to a social group or tradition is the highest level of both moral and intellectual achievement in our culture, if that commitment concurs with awareness of conflicting moral systems. Such an awareness requires development beyond what Perry calls the Dualist stage of black-and-white, us-them thinking, the kind of thinking Erikson describes as clannish, stereotypical and intolerant. Like Erikson, Perry sees, in his Relativist stage, a struggle with testing reality: Is there an area where Authority has not figured out the answers yet? (Perry's position 3); is there legitimate uncertainty? (position 4); does "anyone have a right to his own opinion"? (position 4a). Perry also sees a struggle with self-knowledge (the shaping of an individual value system in his position 6, to be shared with like-minded people in the Commitment stage of his positions 7,8 and 9). Perry seems to have developed Erikson's vision of the crises of adolescence into a nine position model.

Another German thinker of the mentalist tradition who influenced Perry's thinking is H. B. Adorno. His The Authoritarian Personality is the basis for Perry's Checklist of Educational Views, the instrument Perry used to test large groups of freshmen for level of development. This checklist formed the basis of the interviews he conducted. The data of the tests and interviews lead to the development of his model. Adorno is another German scholar who escaped to America as Hitler came to power. Before coming to the U.S., he worked at the Frankfurter Hochschule, an institution that saw the development of the potential of the individual as a major goal of social studies, in contrast to the concurrent American behaviorist goal of mainstreaming individuals. A third German mentalist Perry cites, also from the Frankforter Hochschule, is Erich Fromm, whose Escape from Freedom is as preoccupied with society's responsibility in steering youthful ideological enthusiasm away from totalitarian systems as Adorno and Erikson are.

Perry is clearly influenced by the German mentalist traditions. The mentalist basis of Perry's work explains both the attraction of the logic of his theory, and the troubling absence of an attempt to explain the mechanisms of his model, which are both, according to Cole and Scribner, characteristic features of mentalist theory. Perry's theory is attractive to teachers because most will recognize familiar student attitudes in his descriptions of the positions. Perry provides a theoretical framework, and hence an underlying logic for these attitudes. Yet Perry's model is weak in that he does not try to explain how the transformations from one stage to another actually occur; nor does he explain the interdependence of intellect and morality he assumes. There is no scientific basis for accepting his theory; there is only the humanistic basis. This absence of a scientific basis is one major reason that I suggest we attempt to explicate Perry's model with the theories of Vygotsky, who tried to bridge the gap between the humanistically-oriented mentalists and the empirically-oriented naturalists with his notion of the mediation of stimulus-response through inner symbolic representation. By relying on Vygotsky, we may be able to provide an explanation grounded in the natural science tradition for a theory that derives from a mentalist tradition. I argued earlier that Perry's model is attractive to composition teachers because in intertwining the intellectual with the ethical it combines the social science perspective with the humanist perspective. By providing an explanation for Perry's model in the scientific tradition with the help of Vygotsky's theories, we reinforce this dual heritage of Perry's model.

I have defined two reasons to explore Vygotsky's theories in relation to Perry's model. First, Vygotsky's notion that cognitive growth is shaped by social environment makes plausible Perry's intertwining of ethical and intellectual growth as shaped by social environment. Second, Vygotsky's notion of mediation, which bridges the gap between naturalist and mentalist approaches to cognitive development, provides Perry's descriptive model with the explanation it currently lacks. If Perry's model can be made both descriptive and explanatory, then it becomes all the more attractive as the basis for a writing pedagogy, because I will be able to provide composition teachers with a model that is both scientifically and humanistically warranted.

III. VYGOTSKY'S THEORY OF COGNITIVE DEVELOPMENT

Vygotsky's achievements can probably best be clarified through a comparison of his theories to the early work of Piaget. The differences between the early theories of Piaget and the theories of Vygotsky stem from their different interpretations of the role of speech. Vygotsky sees speech as a shaping force that internalizes social behavior and models experience, thus affecting the individual's thought processes. For Piaget, cognitive development is a hereditary or biological process, facilitiated by motor and sensory action. Piaget's developmental scheme moves from egocentric thought, where the child is unable to understand the point of view of others, to increasingly decentered thought, where the perspectives of others are incorporated in a broader and hence more abstract perspective. This transition from egocentric thought to decentered thought occurs through the child's manipulation of objects. To Piaget, the condition for development of abstract thought is motor action. His developmental scheme consists of four stages: the sensory-motor stage, where the child learns to manipulate objects; the pre-operational or intuitive stage, where the child begins to distinguish logical relationships between objects; the concrete operational or practical thought stage, where actions become logical and directed; and the formal stage, where the child can form concepts of a logical nature in the absence of physical objects (Piaget Six Studies 3-73).

In contrast, Vygotsky posits that elementary and complex cognitive development are formed through different processes. The distinction between lower and higher cognitive functions can be characterized as the difference between reflexive and intentional behavior. According to Vygotsky, elementary levels, which we share with animals, are developed through biological processes, much like Piaget's sensory-motor stage, in which motor development shapes cognitive development. Complex cognitive functions, on the other hand, are formed because of tool use and speech, which, according to Vygotsky, are both learned through social interaction. For the child, the socio-cultural aspect of learning occurs through imitation of adults. The child learns tool use through the repetition of imitative acts. From this repetition, she distills a generalized blueprint or model for the particular action. Language is learned in a similar though somewhat more involved process of imitation and distillation. The models distilled from tool use and language shape the complex cognitive functions. Consequently, socio-cultural processes shape the development of complex cognitive functions. In the latter, humans begin to distinguish themselves from animals, who have little or no socio-cultural processes, and hence little or no higher cognitive development.

In Piaget's theory, the speech of the child is treated as symptomatic rather than functional; it parallels the development of directed motor activity, and indicates the child's capacity to decenter. Piaget interprets "egocentric speech," the speech of a child that accompanies its actions but is directed to itself, as a sign that the child is midway between egocentrism and true socialization, because it addresses itself rather than others, even though it speaks out loud (*Six Studies* 21). However, according to Vygotsky, experiments by Kohler have established that while apes can use tools, their tool use is not paired with the use of a symbol system such as language (*Mind* 23). Thus speech is not necessarily a parallel development to logical action. Kohler's findings led Vygotsky to conclude that speech has a larger significance in the developmental process than previously acknowledged; speech was likely to be an autonomous force influencing cognitive development. Vygotsky's theories are thus interesting to the composition teacher because they, unlike Piaget's theories, posit a significant correlation between thought development and language.

In his experiments, Vygotsky noted that children, particularly when solving a difficult task, accompany their actions with speech. He further noted that to stop this speech is either futile or freezes the child, indicating that this speech is necessary to carry out the action. Speech serves to weigh and plan the use of tools in the solving of the problem, reflecting both on the manipulation of the objects and the determination of behavior. Hence Vygotsky interprets egocentric speech as an intermediate form between external and internal speech: "functionally, egocentric speech is the basis for inner speech, while in its external form it is embedded in communicative speech" (27). Social speech, where the appeal is addressed to the adults, is beginning to turn inward as the child appeals to itself, though still out loud. This is the transformation from interpersonal to intrapersonal use of speech. Thus internalization of speech leads to adoption of new cognitive models suggested by language.

The transformation from external to internal speech occurs in stages. First, speech comes after the act; the child can name her drawing only after it is finished. Then, speech accompanies action, reflecting the progressions of problem solving. As an example, Vygotsky cites the use of speech by a little girl in one of his experiments, whose task was to obtain some candy from a shelf with the help of stools and a stick:

> (Stands on a stool, quietly looking, feeling along a shelf with a stick.) "On the stool." (Glances at experimenter. Puts stick in other hand.) "Is that really the candy?" (Hesitates) "I can get it from that other stool, stand and get it." (Gets second stool.) "No, that doesn't get it. I could use the stick." (Takes stick, knocks at the candy.) "It will move now." (Knocks candy.) "It moved, I couldn't get it with the stool, but the, but the stick worked." (25).

Finally, in the last stage of transformation, speech occurs before the act, serving to plan and guide the course of action. Speech begins to shape action. This transformation of the role of speech is the process of internalization of social behavior. As social speech becomes inner speech and becomes a means of managing behavior, social behavior is shaping cognitive development.

Speech is crucial in the internalization of social behavior, because the making of models is inherent in its structure, and because language models convey social perspectives. Language teaches us to abstract. On one level, language teaches us to abstract through its representative quality. The little girl's language describing her carrying out the functional task (getting the candy) enables her to represent the task to herself so that later attempts to carry out the task are made easier. On another level, language teaches us to abstract because language is itself a series of abstractions. According to Vygotsky, an axiom of social psychology is that communication without a sign system is not possible. And signs are, by definition, generalizations of experience. Hence *every word,* except for proper nouns, *is a generalization* used to reflect reality (*Thought* 5). For example, the word "table" refers to the idea of tables in general, not to one specific object. In order to communicate, the individual has to learn to think in terms of abstractions. These abstractions are not easy to grasp, since tables can have one, three, four or even six legs, and are structurally very similar to stools and even chairs. The idea of "table" is based on function, not on properties or appearance. To learn language, then, one has to learn to abstract the principles of classification. These principles reflect the cultural perspective. Word meaning is a unit both of generalized thought and of social interchange. (This property of sign systems explains why an individual can never completely communicate an experience.) To compositon teachers, Vygotsky's theories suggest that their work, teaching language arts, plays a significant role in teaching students how to think abstractly.

Vygotsky holds that the mastery of the connection between sign and meaning develops only gradually. The child only truly masters language when it understands that "table" is not just the name of a certain object at home; when it has "adequately generalized" the concept. It would be wrong to assume that just because a child says "table", it has mastered the generalized concept. Vygotsky illustates the process of learning to generalize with an example of how children learn to point. When a child wants an object, it initially indicates its desire by reaching for the object. Helpful adults will respond to this reaching. At this point, the reaching is part of the whole behavior. Gradually the child will abstract from his reaching behavior the pointing gesture. Yet only when pointing becomes intentional can we say that the child has adequately generalized the principles of the sign system (*Thought* 27-30).

Vygotsky points out that a crucial indication of the child's beginning mastery of the abstractions involved in language occurs when the child begins to ask for the meaning of words, and when there is a sudden increase in its vocabulary (*Thought* 28). When the principles of language as a system of abstraction are beginning to be mastered, language begins to structure experience. The labeling aspect of language changes the focus of attention. To return to our example of the table, that wooden object with the splintered legs that you like to hide under to play house because it smells kind of musty and feels rough but solid and safe, that object becomes, because of language, an object that one eats at and at which one plays games. Language has focussed attention on its function. Sensory experience diminishes because the object is now perceived functionally. Also, because the object has become part of a larger set, the object itself loses importance. Thus language changes perception. It also categorizes perception; one learns to recognize, for example, a white circle with two thin strips as a clock. The visual experience becomes infused with meaning because one becomes aware of the whole rather than of isolated parts. In this manner, speech serves as a model that reduces the influx of sensory data.

Furthermore, language provides a bridge in time. Language, because it reduces experience to models, structures and organizes long term memory, leading to a greater control of the past, which in turn leads to greater control over the future. Thus language shapes intentionality, which Vygotsky believes to be the threshold between lower and higher level cognitive development, through symbolic representations of purposeful action (Mind 31-37). Hence language shapes the cognitive development of the individual in many different ways. Since language is a social tool, it can be said that social interaction shapes the cognitive development of the individual. Vygotsky believes that "the most significant moment in the course of intellectual development, which gives birth to the purely human forms of practical and abstract intelligence, occurs when speech and practical activity [tool use], two previously completely independent lines of development, converge" (Mind 24). This converging occurs when language begins to affect action, as we saw in the example of the girl who obtained the candy with the help of stool and stick by using speech to deliberate and plan her actions. The interweaving of these two processes is, in Vygotsky's words, "the history of development of the individual" (Mind 46).

Composition teachers may have encountered an interpretation of how language organizes thought similar to that of Vygotsky in the work of

Frank D'Angelo. The connection beteen thought and language that Vygotsky posits is not unlike the kind of connection D'Angelo makes between thinking and Aristotle's topics. D'Angelo, in his writing text Process and Thought in Composition, noted years ago that Aristotle's topics--opposition, division, enumeration, chronology, similarity--are more than mere "places to go" when you suffer from writer's block. D'Angelo's approach is clearly related to structuralist criticism, because he treats Aristotle's topics as deep-structures of a text, that are expressed both on the paradigmatic and the syntagmatic level. Consequently, D'Angelo uses these topics for inventional, organizational and stylistic functions. For example, the topic opposition can be used to generate ideas about a given topic. In an assignment about computers, opposition can be a way to define, say, robots as opposed to other kinds of computers. The topic opposition can also be used to organize a text; a paragraph or even a whole essay can be structured so that the topic is opposed to something else. For example, a paragraph or an essay could be written opposing the qualities of a robot to those of other computers; or, with a different topic, the writer's opinion can be opposed to the opinion of, say, a particular expert. Finally, the topic opposition can be used on a stylistic or syntagmatic level. One can use phrases like "Use soft words and hard arguments," or "do as I say, not as I do" (D'Angelo 262-263). Thus one type of structure can be used to organize a text on different levels.

D'Angelo's use of Aristotle's topics as the matrices for paradigmatic and syntagmatic structures in a text means that he is in fact using the topics as cognitive structures that inform the organization of one's experience, here of a text. Thus D'Angelo's work implies that the classical topics are in fact basic cognitive structures in Vygotsky's sense of the word. The topics seem like useful building blocks for the kinds of models Vygotsky refers to. Hence D'Angelo's use of Aristotle's topics as paradigmatic and syntagmatic structures can be seen as an application of some of the major categories of forms implied in Vygotsky's concept of cognitive functions. Consequently, Aristotle's topics can be seen as a way of categorizing experience, or in Vygotsky's terms, as examples of cognitive structures, on the first levels of complex thought. It is necessary to assume that Aristotle's topics are only the first steps of generalization because few things in the world can be fully understood through the application of one such topical category. The more complex cognitive structures Vygotsky refers to would have to be envisioned as consisting of combinations of the more basic forms. For instance, understanding the political relationships within one's workplace would involve the use of multiple basic forms, such as definition, chronology, and hierarchy, in one complex configuration, in order to accurately reflect the complexity of such relationships. Thus D'Angelo and Vygotsky are similar in that they both present patterns of thought as organizing experience. However, they differ in that Vygotsky maintains that these patterns have been learned through social interaction.

Vygotsky underlines the social nature of his categories of thought in his example of how the child learns to point. The sign, pointing, develops because adults respond to it. The child's failure with the object leads to success with people; the meaning of the gesture is established by others. The child then learns to generalize the use of the sign, again because of the social response its use evokes. The development from reaching to pointing to intentional pointing is a series of transformations, from external to internal representation, and from interpersonal to intrapersonal process. Vygotsky believes that "all the higher functions originate as actual relations between human individuals" (*Mind* 56-57). Vygotsky's concept of mediation through inner representation derives from stimulus and response; the child reacts to events by responding to social stimuli. But then something unusual to scientific thought occurs in Vygotsky's analysis; the child distills a model, a symbol, such as a word or a gesture, from its own reflexive behavior. This distilled representation of the stimulus-and-response then in turn affects the way the child perceives and thinks; the structure of the distilled representation in fact shapes the higher cognitive development. This, then, is what Vygotsky refers to as mediation: the distillation of a model from stimulus and response, which shapes the structure and organization of the complex cognitive processes. Mediation allows control over the environment; language helped coordinate the act of obtaining the candy. Similarly, the pointing gesture allowed social control; pointing resuts in adults giving the child the desired object. This control over physical and social environment implies a full command of the symbol system. Intentional acts, then, result from complete control of the mediation system. Hence intentionality becomes the dividing line between simple and complex cognitive development in Vygotsky's scheme.

In a fourteen page monograph entitled "Comments," published in 1962, Piaget responded to chapters 2 and 6 of Vygotsky's Thought and Language (Piaget in The Language and Thought of the Child). In the monograph, Piaget explains that his studies on egocentric speech of the child were intended to discover whether that type of speech could be a norm against which to measure egocentric thinking, a position he later rejected. While Piaget is generally impressed with Vygotsky's work, he does not believe that speech is a condition for higher cognitive development. He accepts Vygotsky's hypothesis that egocentric speech is a transitional stage between internal and external language, but believes that this process is dependent on genetic readiness. He concludes his monograph as follows:

> All logical thought is socialized because it implies the possibility of communication between individuals. But such interpersonal exchange proceeds through correspondences, reunions, intersections, and reciprocities, i.e., through operations. Thus there is identity between intra individual operations and the inter individual operations which constitute cooperation in the proper sense of the word. Actions, whether individual or interpersonal, are in essence coordinated and organized by the operational structures which are spontaneously constructed in the course of mental development (14).

Here, Piaget gives the word "socialize" a quite different meaning than Vygotsky does, by reversing the causal relations of the processes. To Piaget, logic causes potential for socialization (through biological development), whereas to Vygotsky, socialization causes logical development (through tool use and language).

How can Piaget accept and praise Vygotsky's interpretation of egocentric speech as transitional between inter- and intrapersonal, and yet hold to his position that biology precedes sociological influences? This puzzle may be clarified if we look at what each means by the notion "cognitive structure" or "cognitive model." Piaget sees cognitive development as the increasing recognition of logical relationships (Murray 49). He recognizes cognitive functions, which are universal, inborn, and invariant aspects of cognitive processes: assimiliation, accommodation, and equilibration. He also recognizes cognitive structures, which are the intellectual processes that do change with age (Haynie 49). These structures are capabilities of the child, measured by four principles, which are categories of the object: space, causality, time, and conservation (Piaget Six Studies 13; Murray 49, 51). In each stage, the child achieves greater control over objects in that it learns to perceive, manipulate, and reason about the manipulation of objects. The growth process can then be pictured as a kind of spiral development around the four principles of measurement (space, causality, time, and conservation). In the first stage, the sensory-motor stage, the child learns that objects exist permanently outside his experience: what Murray calls the "ability to represent events . . . symbolically," which implies the ability of the "construction of permanent objects" (51). In the pre-operational stage, the child still believes that if one flattens a clay ball, that the flattened ball is heavier, but in the concrete operational stage, this principle of conservation is logically understood. In the formal stage, the child understands these logical principles abstractly, i.e., without needing to see the physical manipulation of objects.

Piaget's perspective is closely related to that of a natural scientist, thus aligning him with the naturalist schools of thought in social science. His focus, his selection of methods, and his terminology suggest the sphere of the natural scientist. He focuses on biological development rather than on philosophical interpretations. He uses constant processes (cognitive functions) and processes of growth (cognitive structures), reflecting the natural scientist's desire to control variables through definition and through the possibility of isolating single variables. He uses fixed principles along which he measures the development of the child, derived from the properties of objects, reflecting the scientist's concern for precise, consistent measurement. Since the child's development is observed in relation to objects, logic develops from the individual's control over objects--a neat, measurable development. Social development is not ignored, but has little to do with logical development; social development results in affective capacities (Piaget 18-22). Thus we find the traditional schism between objective truth and subjective emotions.

Vygotsky's concepts and methods, by contrast, display clear relationships to both the mentalist and the scientific traditions. His double allegiance is evident in his perception of the individual as a product of both biology and social interaction. We noted earlier that Vygotsky's biological process is very similar to Piaget's sensory-motor stage, because here the child learns to distinguish between itself and objects, and learns that objects are permanent. Thus Vygotsky's developmental scheme, like Piaget's, begins with the relation between individuals and objects. Then, however, social influence begins to play a role in Vygotsky's scheme, through the process of mediation of social stimuli and responses. I have already discussed Vygotsky's indebtedness to both naturalist and mentalist thought in the development of his concept of mediation: Vygotsky sees development not as the individual's control over objects but as the individual's control over social symbols. Social symbols are learned through social interaction, through imitation of social stimulus and response situations. Through imitation, we recall, a model will be distilled; this model functions as a symbol. Tool use and language are both models distilled from social interaction. These models or symbols affect cognitive development because they categorize and re-focus the child's attention. The structure of the symbols shapes the structure of the child's complex cognitive processes.

By relying on Vygotsky, we have bridged a gap between naturalistic and mentalist approaches to social science. Vygotsky's model allows us to both describe and explain cognitive processes. Vygotsky's description of cognitive growth as a gradual internalization of social models coincides with Perry's description of cognitive processes as gradual internalizations of the world views of the social environment. Since Vygotsky's and Perry's descriptions of cognitive growth are very similar, it seems reasonable to assume that Vygotsky's explanation of this process (as mediation of stimulus-response through symbol systems such as language) will also apply to Perry's model. In contrast, Piaget's theories, with their strongly naturalist focus, do not allow us to explain and justify the use of a mentalist model like Perry's. While I do not intend to discredit Piaget, it is clear that Vygotsky's views on cognitive growth simply prove more useful in helping to explain Perry's developmental scheme. In Perry's scheme, intellectual and ethical development are intertwined, with no opportunity for separating the two. By using Vygotsky's theories to explain cognitive development, Perry's interwining of logic and morality become more plausible. Ethical development is, after all, clearly formed through social interaction. If intellectual development is also formed through social interaction, as Vygotsky argues, then it seems reasonable to assume that ethical structures are interdependent with cognitive structures, since both originate from the same symbolic interactions. With Vygotsky's theories, I have demonstrated that Perry's intertwining of cognitive and ethical development entails a combination of disciplinary perspectives, namely the social scientific and the humanistic, or, in Cole's terms, the mentalist and the naturalist. This combination of perspectives allows the composition teacher to base her pedagogy on both scientific and humanistic grounds.

Moreover, the recognition that ethical structures can be seen as functionally related to intellectual structures, as in Perry's model, has direct implications for class management. The consequence of this new junction of the ethical and the intellectual changes the role of the teacher. After years of being expected to be as objective as possible, teachers will have to reconsider their influence on the ethical development of their students. Furthermore, the recognition that intellectual development is grounded in social interaction has pedagogical implications. It means that language education is not exclusively a matter of sequencing assignments to accommodate the student's cognitive structures and stages, as theorists like D'Angelo, Lunsford, and Emig suggest. Neither should language education focus exclusively on reading and writing as social transactions, as communication models often would have it. Vygotsky's model suggests that language instruction should be based on a combination of these two perspectives because he sees social transactions as shaping complex cognitive functions. His educational ideas, elaborated in the next section, suggest that these cognitive functions do not occur randomly, but follow a relatively predictable pattern. The implication of Vygotsky's theories is, then, that language education should consist of social transactions, oral and written, within a framework of stages. However, perhaps because so much of his work is lost, Vygotsky does not provide a clear schema of how such cognitive structures develop. Here Perry's model forms a useful elaboration on Vygotsky's research, because Perry does provide a developmental scheme. Basing her pedagogy on the combination of Vygotsky's and Perry's work, a composition teacher can structure her course plan around a series of social interactions that are sequenced with the intention of encouraging the students' cognitive development along the lines of Perry's developmental model.

IV. THEORIES OF EDUCATION--PERRY AND VYGOTSKY

While Vygotksy's work concentrates on explaining the mechanisms of cognitive development, and Perry's work on describing a model of cognitive development, their assumptions about education are the same. When Perry makes suggestions about education, he says that in order to encourage the student to move from Dualism to Relativism to Commitment, teachers should focus on presenting a multiplicity of perspectives, to confront the student in the classroom with the plurality of culture. He also says that teachers should encourage students to determine their own position, and not look for a "Right Answer" (Forms 212). His suggestions are based on at least two assumptions: that the teacher plays an active role in a child's development, and that cognitive development is affected by learning. Both these assumptions follow logically from Vygotsky's notion that social interaction shapes higher cognitive development. Clearly the two scholars share these assumptions about learning. And, consistent with their respective mentalist and naturalist leanings, Perry provides the humanisties-based description of what teachers can or should do, while Vygotsky provides the empirically-based explanation of the assumptions underlying Perry's advice.

Patricia Bizzell argues that it is not wise to adopt Perry's developmental scheme as a model underlying a curriculum, because she does not wish to commit a version of the "American Heresy," a term used for trying to push students faster--too fast--through Piaget's developmental process (452). She implies that doing so may discourage

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or freeze students rather than be helpful. The term "American Heresy" makes sense in the context of Piaget's theory. Piaget assumes that cognitive development has to unfold naturally, because it is a biological process. Consequently, in Piaget's model, educators cannot have an active influence on the progression of the stages, but are restricted to broadening the areas of application for the stage of development of their students (See Piaget Science of Education 48). Thus, when educators working in this model begin to try to push students towards the next stage, they are attempting something impossible, according to Piaget's model. This, then, is the American Heresy: the inherent paradox in an educational system which in theory assumes that the time scale of biological development is unalterable, while in practice it emphasizes "acceleration," or moving a student ahead of her developmental capacities.

By assuming that adopting Perry's scheme as the basis for a curriculum would lead to a version of the American Heresy, Bizzell implies that Perry's model is very similar to Piaget's, something she disclaims earlier in the same article. Perry's scheme, as Bizzell herself noted, differs drastically from Piaget's model in that it assumes that social environment affects the growth patterns of the individual. If social environment affects growth, the next logical step is to assume that educators, as part of that environment, may well be able to encourage growth itself, rather than merely facilitate the application of a basically unalterable biological process. Perry proposes such active involvement of educators when he calls for a pluralist approach in the classroom. Vygotsky also assumes the necessity of challenging students beyond their current level of development, because he believes cognitive growth occurs through internalization of social forms. To Perry and Vygotsky, learning must precede development. If, according to the theories underlying Perry's scheme, teachers can actively affect growth, then doing so can hardly be called a Heresy. Thus the paradox between theory and practice referred to as the American Heresy can be dissolved by adopting Perry's scheme, supported by Vygotsky's theories, in place of Piaget's, because there is no conflict between the theoretical assumptions of Perry's model and the practice of challenging students to push them beyond their current level. Perry's model presupposes that teachers can and must challenge their students.

Vygotsky clarifies why teachers must challenge their students by proposing his concept of the Zone of Proximal Development. Instead of focusing only on the developmental level of the child, Vygotsky claims education should look at a child's potential for growth. Vygotsky notes that if a child is given clues, it can solve problems normally too difficult for its level of development. If, however, the problems are too far removed from the child's current level of development, she will be unable to solve them, no matter how many hints or how much guidance she receives. There is, then, a certain area beyond the current level of development in which the child can solve problems if she receives help. Vygotsky calls this area the Zone of Proximal Development (ZPD). The bottom margin of this Zone is the current developmental level, which reflects what the child has achieved and mastered so far. The top margin of the ZPD is the level of problems a child can solve beyond her own developmental level with the help of adults or peers (Vygotsky Mind 84-87).

Vygotsky's notion of the Zone of Proximal Development rests on his focus on the role of imitation in learning. He states that in classical psychology, only independent behavior is measured, not imitative behavior. However, his developmental theory, we recall, is based on the notion of learning through imitation. As Wertsch and Brown and Ferrara note, Vygotsky's theory hinges on the concept of internalization of social behavior (Wertsch 163, Brown and Ferrara 281). Through imitation, social forms of thought and conduct such as tool use and language are internalized. This ability to learn through imitation is specifically human. Working from Kohler's research with primates, Vygotsky claims that primates have no Zone of Proximal Development, although they do imitate each other. The problems they solve through imitation are problems within the range of their developmental level, problems they would have been able to solve on their own (Vygotsky Mind 88).

Imitative behavior was traditionally not measured by psychologists because it was implicitly assumed that one can imitate any level of complexity. Consequently, it was assumed that in order to measure individual achievement, one had to measure what the subject could achieve without assistance in the form of peer guidance. However, Vygotsky notes that his and other contemporary research shows that imitative behavior is also regulated by developmental zones (Mind 87). A child can only solve problems within a certain range of her developmental level. While these ranges differ for each individual, their reach is always limited. The range between this reach and the current developmental level, which Vygotsky calls the ZPD, can, in fact, accurately predict the child's growth in the immediate future. The higher the level of problems a child can solve with help, the faster a learner she is. For example, two children, both with chronological age 10 and mental age 8, may have different Zones. Perhaps Ann can solve problems under guidance up to the level of a twelve year old, while Betty can solve problems up to the level of a ten year old. If these children would be tested again, say two years later, then Ann, the one with the larger Zone, will have achieved a developmental level of 12, while Betty, the one with the smaller Zone, will have achieved the level of 10. Thus the Zone can predict how fast a child will learn (Mind 86). The Zone can thus be used as a predictive tool. Brown and Ferrara suggestively refer to the Zone of Proximal Development as the child's "sphere of readiness" (Brown and Ferrara 299).

Today, Vygotsky is no longer alone in his belief in the crucial role of imitation. Michael Cole (1985) gives a clear illustration of how imitation plays a vital role in the learning process when he describes how the Kpelle in Liberia learn essential parts of adult conversation through games played as children. In one of their many verbal games, children of a range of ages form two teams. In a kind of call-and-response pattern, one team will shout a riddle, and the other team must answer it. The riddles, Cole says, form the basic elements of proverbs, which in turn are essential elements of adult conversation. Thus a riddle might go something like this:

Call: "A rolling stone!"
Response: "Gathers no moss!"

Each member of the teams gets a turn, beginning with the oldest. Thus the younger learn from the older children, and they also get a chance to play the game (Cole in Wertsch 156).

Vygotsky points out that an education system based on teaching up to the current developmental level teaches in fact yesterday's news. The flaws of this system were first noted because of problems in its practical application, most clearly in the case of mentally-retarded children. Studies had established that retarded children are not very capable of abstract thinking. The level of teaching was accordingly directed at the developmental level they did master, concrete operational. Unfortunately, this approach "not only *failed to help* retarded children overcome their handicaps but also *reinforced their handicaps* by accustoming children exclusively to concrete thinking and thus *suppressing* the rudiments of any abstract thought that such children might have" (Vygotsky *Mind* 89; italics mine). Vygotsky concludes that schools "should make every effort to push" students in the direction of development. Education should challenge and encourage growth, not suppress it. The notion that education should push beyond a child's current level of development is reinforced by contemporary research of Ann L. Brown and Roberta L. Ferrara. Brown and Ferrara maintain that "by aiming instruction at the upper rather than the lower bound of a child's zone," not only a more positive picture of potential is created, but actually better results occur. Both mentally retarded and normal children responded very positively to instruction that asked them to solve problems beyond their current developmental levels.

From the work of Vygotsky as well as that of Brown and Ferrara, we can conclude that the Zone of Proximal development is not intended as a limitless excuse to push children ever faster to ever higher levels of development. Instead, the ZPD seems to walk the middle ground between the Piagetian technique of teaching yesterday's news, and the American Heretics' tendency to push children too hard, by posing not one but two bounds for instruction. The two bounds suggest that education should neither go too slow, nor too fast. While this sounds so commonsensical that it seems trivial, the ZPD adds to common sense a way of measuring what "too fast" and "too slow" actually mean. Thus Perry's notion that the teacher should challenge his students toward further development has been validated by Vygotsky's notion of the Zone of Proximal Development. Teachers, according to the theories of Vygotsky and his followers, can indeed actively stimulate student development. Moreover, Vygotsky, by posing two Zones, seems to accept the line of development of traditional, e.g., Piagetian, schemes of growth, and clearly supports the notion of a more or less sequenced developmental pattern.

Brown and Ferrara further refined the usefulness of Vygotsky's Zone as a measuring instrument. In exploring the relationship of IQ (as a standard for the current developmental level) and the Zone of Proximal Development, they found that IQ and ZPD are related for about two-thirds of the students they studied, but that the two norm systems do not measure the same capacities. They found that the ZPD allows for more specific descriptions of aspects of learning, in particular learning speed (how quickly is the structure of a problem-solution absorbed);

"far" transferral (transferral of learned principles to other problems in the same field); and "wide" transferral (transferral to similar problems in different fields). For example, in the study, Brown and Ferrara had subjects look for particular patterns in series of letters. Here, number of necessary cues and time needed for solutions were measured to determine speed of learning. Then the subjects were asked to look for those patterns in more complex series of letters in order to "break a code." Here measurements focussed on how "far" students were able to transfer learned principles. Then the subjects were asked to seek for patterns in series of figures rather than in letters. Here measurements focussed on students' capacity to master "width" of transferral. Brown and Ferrara concluded that the ZPD allows for a better diagnosis than IQ tests, because it allows for much more precise description of learning style. It suggests whether a student needs more help with learning a particular solution, or with transferral of the principles of a solution (Brown and Ferrara 288-296).

As is apparent from his concept of the Zone of Proximal Development, Vygotsky shares Perry's assumption that teachers play an active role in the cognitive development of students. He explains these assumptions with his theory that learning is a social event, based on imitation of social interaction and on mediation or inner representation of this interaction. In addition, Vygotsky's model allows for precise description of the student's learning style as well as for precise description of a student's growth range at any given point in time. Thus Vygotsky's views on education provide useful support for Perry's suggestions about education.

Perry notes that his suggestions, to encourage pluralism and free choice of position, have one drawback. While presentation of multiplicity may be helpful for the student in developing up to position 5, where multiplicity is acknowledged, students particularly need help to avoid alienation at this point (*Forms* 212). To understand the risk of alienation, it may be useful to compare the stages in Perry's model to major ideological stages in the development of Western culture. (Such a comparison is merely intended to provide an analogy I hope will be illuminating, and is consequently roughly hewn at best.) Perry's extreme Dualism can then be compared to our culture's values in the Middle Ages, where Authority was the Church, and differing viewpoints were neither admitted nor permitted. Perry's next stage, Relativism, can be paralleled to the era from roughly the sixteenth century until the mid twentieth century. This period is marked by an increasingly greater awareness of relativism, beginning with Martin Luther's attack on the Church, accumulating with the scientific revolution and the industrial revolution, when the absolute authority of the Church was progressively undermined, and culminating in the total denial of Authority by the twentieth-century Existentialists. The Existentialists best expressed the emotional turmoil that the logical position of ethical relativism can cause among humans. Positions 4 and 5 in Perry's scheme suggest an emotional state very similar to the bewilderment, fear, and despair the Existentialists faced when first confronted with the complete absence of Authority. Perry's last stage, Commitment, can be compared to our culture's values in the post-Existentialist period, in that our culture can arguably be said to be involved in a process of redefining itself in response to Existentialism.

Perry's last stage, Commitment, is in fact inspired by the Existentialists. They, in particular Albert Camus, made the first steps into redefining life in the face of nothingness. Perry notes his indebtedness to Camus for the development of the later stages of his model, particularly "in respect to the dilemmas of hope and despair, reason and unreason (see esp. The Myth of Sisyphus)." He also mentions Michael Polanyi's work as highly influential on his thinking about "the ultimate welding of epistemological and moral issues in the act of Commitment" (Forms 202).

The implication of this analogy of Perry's model to the development of our culture is that Perry, in the later stages, can be said to interpret our culture's solution to the experience of alienation as a new need for the welding of the moral and the cognitive in social commitment. In educational terms, this parallel between cultural ideology and individual development would then translate into the need for a sense of community among students who attempt to move toward the highest stages of Commitment. Perry emphasizes that in order to encourage growth beyond stage 5, students need this sense of community, a sense, as Perry describes it, of "we're all in the same boat." A sense of commitment and responsibility presupposes a sense of belonging. This leaves the teacher the responsibility not only of encouraging the student in her search for positions, but also of making the student feel that such activities mean membership in a community. Perry suggests that the best way to convey this sense of community is by creating a certain openness between teacher and student, where the student is allowed to see, if not share, the teacher's own thinking, groping, doubting, and styles of Commitment. In short, the teacher becomes a kind of model--not one the students must adopt, but that can serve as an example of how to live this more relativistic world view (Forms 209-215).

It is interesting to note that, in Cole's description of Kpelle learning, alienation is prevented by the structure of the games. Since young children participate with older children, the young ones not only feel included, but actually take a share of the responsibility for the game in the process of learning. In this method of learning through collaboration, alienation is avoided by making learners participate and take responsibility for what is learned. Thus Vygotsky's theories provide not only an explanation for Perry's assumption that teachers can affect student growth, but actually suggest additional educational strategies to achieve such growth. Through collaborative learning, the less experienced can learn by imitating the more experienced, while the more experienced learn by teaching the novices. Simultaneously, collaborative learning instills a bonding and sense of belonging for all participants. Consequently, in a pedagogy based on Vygotsky's and Perry's theories, collaborative learning techniques ought to play a major role.

Vygotsky's position on learning suggests that he does not believe that either biology or social interaction are solely responsible for cognitive development; rather, there must be an interaction of the two. That the ability of a child to solve problems with help is limited, as Vygotsky claims, suggests there is a limitation to the child's cognitive reach. This limitation, given that what is measured is achievement through interaction, is clearly not caused by lack of social interaction, so the cause must be biological. Implied, then, in the restricting top margin of the Zone, is the idea that there are biological limits to a child's capacity to grow. It might be useful to describe the role of socialization as a catalyst in the developmental process. On the one hand, it is a necessary element of growth; without socialization, no complex cognitive processes would occur. On the other hand, socialization is not the sole ingredient of complex processes: the intellectual capacity has to be there. In other words, we cannot, with Vygotsky's Zone, now claim that a child's intelligence is exclusively determined by the degree she has been involved in social interaction. Neither can we say, like Piaget, that only biology determines a child's intellectual development. The Zone is a compromise between these two extreme positions: a child's cognitive development is determined by the relationship of genetic capacity and degree of socialization. Consequently, there is a limit to the teacher's capacity to push a child; pushing too hard is a danger in Vygotsky's framework. Moreover, his frame adds the idea that not pushing hard enough also actively endangers a child's potential for growth.

The position that not nature but people determine the development of the individual implies a responsibility on the part of society, and hence educators and education theorists, to consider both the methods and the goals of that development. Perry's model does precisely that. The method Perry recommends is cultural diversity and plurality; the goal he suggests is Commitment in Relativity, his highest stage. While this goal is necessarily ethical in nature, it is morally neutral in that he does not specify to what or whom commitments should be made; the specific choices are up to the individual student. That such choices should be made, and that the student should traverse a kind of existentialist Nomansland before such commitments can be made, is based on an ethical framework sufficiently broad that the majority of reasonable people can presumably agree upon its structure. Perry clearly attempted to use a broad frame of reference for the ethical aspect of his model. In providing this ethical framework, Perry's model provides a necessary addition to Vygotsky's theories because, while Piaget's views on cognitive development leave the determination of educational goals to nature, Vygotsky's views necessitate ethical as well as intellectual considerations for education.

The combination of Perry's and Vygotsky's educational concerns suggests that a composition teacher needs to be aware not only of her students' current level of development, but also of the range of their capacity to solve problems with the help of others. The teacher needs to sequence her assignments and class activities so as to encourage growth within her students' Zone of Proximal Development, using activities they are already capable of handling as building blocks for increasingly more demanding activities. Such activites can in turn be used as building blocks for increasingly more complex writing assignments. Also, class activities need to involve social interaction, through small group and class discussions and responses by peers and by herself to written work, so that imitation and modelling through language can occur, and can help shape the cognitive development of individual students.

CHAPTER TWO

SOCIAL CONSTRUCTIONISM

The notion that cognitive functions are shaped by social interaction is no longer unique to Vygotsky. In cognitive psychology, the most notable supporters of Vygotsky's position are his student and co-worker, A. R. Luria, and a contemporary American scholar, Jerome Bruner. The influence of social interaction has also been recognized by litarary criticism, particularly among the schools of reader response criticism and structuralism. While the terminology is slightly different, in that literary critics are more likely to speak of "meaning" and "community" instead of using the scientific terms like "cognitive function" or "cognitive structure" and "social interaction," some critics are clearly addressing the same issues as cognitive psychologists. Among reader response critics, the most notable parallel to Vygotsky's position is found in the work of Stanley Fish. Among structuralist critics, Roland Barthes' work displays the clearest connections to Vygotsky's theories. This chapter will center around the discussion of the work of these four figures and how it posits the influence of social interaction on cognitive functions, or, in literary terms, the influence of community on meaning. The chapter will then conclude with a general discussion of social constructionism as a new interdisciplinary movement toward recognition of the influence of socio-cultural structures and behaviors on individual intellectual development.

The purpose of this chapter is to further expand the theoretical framework underlying my use of Perry's model, to indicate more precisely what the implications are of using this model as a heuristic for a writing pedagogy. In the previous chapter, we observed that Perry's model shares central assumptions with Vygotsky's theories. This led to the conclusion that learning can be seen as a socially induced activity, occurring in stages that are a balance between biological capacity on the one hand, and experience through social interaction on the other hand. We found that language plays a central role in learning and thinking, because the categories of generalization reflected in language shape the cognitive models with which we organize our experience. The implications of these findings for teaching writing are, first, that writing teachers can play a significant role in the shaping of students' thinking, particularly since their teaching tool is also the tool that directly shapes thought, and second, that teaching writing should occur in stages in such a way that they make use of and challenge students' current developmental levels. We find in Perry's model a description of such stages that applies in particular to college students. In the previous chapter, we also found that learning through social interaction is most effective in the context of collaborative learning, partly because all participants learn in the experience, and partly because the bonding that occurs during such learning experiences helps prevent the risk of alienation that often occurs as a negative side effect of

Perry's middle stage, Relativism.

The implications of using Perry's model as a heuristic discovered in chapter one will be elaborated and refined in chapter two. Here, I hope to indicate the role *written* language plays in shaping thought processes, in order to become more specific about the role of the *college* writing teacher. Also, I will define more precisely the relationship between social interaction and the academic community. I will show that the academic community can be seen as a special social group with its own conventions, so that college level teaching becomes a kind of initiation into the academic community through transmission of its conventions. College students need to know such conventions to succesfully traverse their college career. In addition, I will show that the use of Perry's model, which depicts the academic community as having a relativist world view, makes a focus on communication in the form of argument plausible if not necessary. Last, I will show that in the context of this relativist world view and the resulting necessity of argument, collaboration is a particularly effective teaching technique. Based on the connections made in chapters one and two, we will then be able to see that a writing pedagogy based on Perry's model should consist of a sequence of writing units structured with the intention to challenge college students, within the realm of their capacities, to learn those categories of thinking that are particularly useful in the academic community. Such units should prepare students for argumentation, and make use of collaborative learning techniques.

I. LURIA: COGNITIVE FUNCTIONS IN SOCIO-HISTORICAL CONTEXT

Although Vygotsky went to German psychology because contemporaneous Russian psychological theories did not satisfy him, he was very much interested in developing a cognitive theory consistent with the political philosophies of Communist Russia. Thus he believed not only that social environment affects cognitive development, but that cognitive development is related to socio-historical development. In *Cognitive Development: Its Cultural and Social Foundations,* Luria describes a study he undertook in the early 1930's, under direction of Vygotsky, which "took the view that higher cognitive activities remain sociohistorical in nature, and that the structure of mental activity, not just the specific content but also the general forms basic to all cognitive processes--change in the course of historical development" (8). The study was made during a historically rather unique situation. It examines cognitive functions of peoples in backwards regions of the U.S.S.R. who, because of the Bolshevik Revolution, were confronted with an entirely new form of society, and hence with dramatic socio-economic and cultural changes. Before the Revolution, the subjects of this study had lived in an essentially feudal, medieval culture. They were peasants "depending completely on the wealthy landowners and powerful feudal lords" (14). As a result of the Revolution, the people in such regions were confronted with modern technological society.

The study examines the cognitive development of two groups: those who had not been exposed to literacy, socialized labor or modern social activities, and those who had been exposed in the last few years. The researchers expected that the unexposed group would display a clear predominance of "graphic-functional" thinking, which according to Cole refers to thinking based on "activity guided by the physical features of objects that the individual works with in practical circumstances" (15). Luria's term "graphic-functional" seems to be very similar to Piaget's term "concrete operational." From the exposed group, they expected more "mediated" or complex thinking. Thus Luria wished to establish a connection between socio-cultural structures and mental functions: the unexposed, "medieval" peasants were expected to display a predominance of concrete-operational thinking, while the exposed, "technologicalized" peasants were expected to display development beyond the concrete-operational level towards more abstract, formal levels of thinking. Luria and his colleagues studied the subjects on a variety of aspects of cognitive processing, including perception, the ability to make logical assumptions, their ability to do self-analysis, and their overall degree of self-consciousness.

For perception, they used colors, based on the Sapir-Whorf hypothesis that linguistic features have an impact on perception, and on color in particular (22). Luria maintains that "perception is a complex process structurally similar to the processes underlying more complex cognitive activities" (20-1). The hypothesis was that those exposed to Russian culture would be more likely to identify abstract categories of colors, because their exposure would have led to mediated, formal thinking. Those unexposed to Russian culture were expected to use less uniform names, because they were more likely to perceive colors in terms of their concrete relationships to experience. Categorization according to color group, for example, red, involves a mental operation similar to recognizing the full meaning of the word "table." That is, in order to understand the word table as an abstract category, one would have to transform one's personal experience of tables to the perception that all tables share one functional characteristic that is the norm for grouping: they are objects one sits at to eat, to write, to talk around. This transformation from personal and experiential thought to abstract thought forms, where abstracting one characteristic leads to classification of the object as a member of a particular group, signifies that the individual has moved from concrete-operational to formal thought, or, in Luria's terms, from graphic-functional to mediated thought. This same transformation occurs in the perception of colors. There, identification of a color as "raspberry" would be an example of personal experience-based thought, or concrete-operational thought. Identification of that same color as "red" would indicate an abstract grouping based on one shared characteristic, thus suggesting formal thinking. Luria expected abstract categorization from the exposed group, and concrete, experiential descriptions from the unexposed group.

The results of the study supported this hypothesis. Luria and his researchers found that the least educated women frequently used graphic names and references to objects (spoiled cotton, liver, calf's dung, etc.), thus displaying a reliance on graphic-functional or concrete-operational thinking, whereas the more educated people used predominantly categorical names (red, blue, yellow), thus displaying reliance on mediated or complex thought patterns (25-6). Moreover, they found that the unexposed, least educated group had great difficulty grouping colors, in contrast to the exposed, educated group (30). In tests on grouping geometrical figures, they found that the least educated group would always relate abstract figures to concrete forms, and would categorize based on the functional relationships of the concrete objects rather than on geometric similarity. For example, when asked if a black circle and an open circle with the top cut off could be put together, the subject (age 26) answered "no, that's a coin and that's a moon" (37). Another subject (age 60) responded to the same question,"The shapes are alike, but one is like a watch and the other like a horseshoe, you can put them together but they're not alike" (40). In both cases the decision is based on concrete object relations, not on abstract form relations. There was, then, a clear differentiation between the exposed and the unexposed group in their tendency to generalize and categorize. The unexposed subjects would give answers based on concrete relations, displaying the graphic-functional or concrete-operational developmental level, while the "technologicalized," exposed subjects would be able to generalize and categorize, thus displaying a more complex level of development.

A similar dependency on concrete relations among the uneducated group is exemplified in tests intended to identify the capacity to generalize and abstract logical relationships. These tests involved the identification of which item does not belong in a group. The following is an excerpt of a test with three illiterate peasants, ages twenty-five, thirty-two, and twenty-six, involving a glass, a saucepan, spectacles, and a bottle. In contrast to the previously described tests, here the researcher provides hints to help the subjects achieve the desired goal of abstract categorization. While the above described tests illustrate the subjects' voluntary tendency to categorize, the following excerpt describes an attempt to elicit potentially dormant capacities to generalize. The exerpt is illuminating because the researcher suggests with increasing clarity what kind of response he seeks. First he emphasizes the need to find a similarity or common feature among the objects. Three times he makes this point using different terms. Then he suggests solutions, proposing different groups and different omissions. None of these suggestions results in the desired grouping by the subjects. Finally the researcher suggests a common feature that would serve as the basis for grouping. While the subjects agree that this common feature exists, they (except for subject II, momentarily) fail to recognize that a common feature suggests the possibility of grouping. Throughout the conversation, the subjects insist on seeing the objects in terms of their concrete relationships to themselves, and are unable to abstract a single aspect as the basis for classification. I quote the conversation in full, because it illustrates how the subjects are willing to consider different kinds of concrete relationships, but are unable to sustain an abstract classification, despite the repeated suggestions and hints from the researchers. (In the following excerpt, the numbers refer to the subjects, the square brackets enclose researchers' comments on the protocol, and R: refers to what the researchers said to the subjects.)

> III."The saucepan and the spectacles fit together. The glass goes very well with the bottle. If it's full of vodka, you can go off to a shady spot and have yourself a good drink. Nice! Those really go together!"
>
> [considers objects that "fit together" those that are needed in a concrete situation.]
>
> III. "We can eat noodles out of the saucepan, but we don't need the spectacles."
>
> R: But we have to pick three things that are alike in some way.
>
> II. "The bottle doesn't fit here. It's got liquor in it and that costs a lot of money."
>
> [Applies the same principle]
>
> III. "Let me tell you that if I had a lot of money, I'd buy the bottle and drink the vodka."
>
> R: If you had to choose three things according to a common feature, what would that be?
>
> II. "If I picked the glass, it's because I'd need it for drinking tea. The saucepan's good for cooking, and the spectacles for a person whose eyes bother him. Even if you have a pain only once a year, the spectacles still come in handy. Look, you know, all these things are sold in the shops because people need them. So you have to pick all of them."
>
> R: But one fellow took the spectacles away, said they were a different kind of thing.
>
> II. "No! He's a fool! What's a person supposed to do if his eyes hurt?"
>
> R: But the other three are cooking vessels, isn't that so?
>
> II. "It its way the other one's a vessel too."
>
> R: But these things all have to do with food.

III. "Yes, but when a fellow gets to be thirty or forty years old, don't you think he needs spectacles?"

R: Sure, but you're supposed to pick three things that are alike in some way, and the spectacles are different.

II. "When you get right down to it, none of the things are alike. Sure, the bottle's like the glass, and the saucepan's like our boiling pans. And the spectacles are for your eyes."

[Groups according to practical interaction of objects, not similar attributes.]

R: Could you put the bottle and the spectacles and the glass together in one group? How are they alike?

III. "You can put the bottle and the glass together, but not the spectacles--they'll get rusty. You've got to wrap them in some paper."

[Construes "put together" in a logical order to mean "place side by side."]

R: Still, couldn't you say that they're all made of the same material?

All 3 subjects. "Yes, they're all made of glass."

R: So it means they can go in one group?

II. "Yes."

III. "No, the spectacles could get rusty, they've got to be set aside."

II. "But the bottle and the glass are very much alike; when the bottle gets dirty, you can rinse it out with the glass."

[Objects grouped in practical situation, not classified] (63-64).

The subjects found it impossible to abstract one feature or attribute from the objects and classify by it; they insisted on grouping based on practical, experiential relationships. The fact that the suggestions of the researcher do not help the subjects arrive at the desired solution suggests that not only does their current level of development not include the cognitive function of categorization by finding a common attribute, but this function is also not available in their Zone of Approximate Development. Only subject II shows signs that he can soon learn to categorize in the desired manner, provided he receives appropriate guidance in this mode of thinking.

The uneducated subjects had similar difficulties with problem solving situations, both concrete and verbal. Luria says, "As a rule, these [unexposed] subjects refused to perform the required formal logical operations, referring to their lack of personal experience, and resorted directly to guesses that did not stem from the conditions of the problem. Sometimes they introduced additional practical considerations" (120-21). The studies of self-analysis and self-awareness found that the majority of the illiterate peasants refused to analyze their own psychological features, whereas the more educated people began to be willing to do so (160).

Luria's research demonstrates several points of importance to the pedagogy we wish to develop. First, it demonstrates a correlation between socio-cultural environment and the cognitive development level of individuals. The peasants who lived in an essentially feudal culture consistently displayed graphic-functional or concrete-operational thinking, and were unable to sustain abstract, complex, or mediated forms of thought in the areas of perception, logical relations, and self-consciousness. Conversely, those peasants who had been exposed to modern Russian culture for two or three years, involving exposure to literacy, socialized labor, technology, and modern social activities, generally relied on abstract forms of thought, and were able to categorize perceptually and logically and to display a willingness to analyze their own thought processes. The difference between their modes of thinking, then, seems to be not necessarily the degree of complexity, but rather the degree to which they were willing and able to recognize abstract relationships.

Second, the research suggests, indirectly, that cognitive development is affected by learning through imitation. The forms of thought that the exposed peasants displayed are those of a culture with which they have only recently been confronted. Since the unexposed group was so consistent in its reliance on concrete-operational thought forms, an obvious inference is that the abstract forms of thought have been adopted by the exposed group because they have imitated the dominant thought forms of a technological culture. This in turn suggests that Vygotsky's notion of the Zone of Proximal Development is based on sound principles. Vygotsky's Zone, we recall, is based on the notion that a student's learning potential can be developed by exposure to new forms of thought. Such exposure should consist of a building on already existent forms of thought, gradually accumulating into adoption of the new forms. The subjects in the grouping example of the glass, the bottle, the spectacles, and the frying pan did not have sufficient exposure to the new form of classification to be able to adopt this mode of thinking. Two or three years of exposure to a culture where abstract thinking dominates, however, did result in the adoption of abstract thought by the majority of the peasants who otherwise shared the same cultural background as the unexposed group.

A third point Luria's research demonstrates is that if exposure and imitation lead to further cognitive development, then cognitive development is not an unalterable biological process, as Piaget would have it, but rather a combination of biological capacity and social influence, as Vygotsky believes. Hence this study also demonstrates that Piaget's stages are not universally applicable. In all parts of the study, in areas ranging from perception to logical operations to self-consciousness, the subjects that had not been exposed to literacy or modern Russian culture displayed the kind of thinking that is closely tied to concrete situations and actions, what Luria calls graphic-functional, and what Piaget would call concrete-operational. The study thus suggests that Piaget's concrete-operational stage is not a stage that children universally outgrow around age 10. The subjects in Luria's study included young and old, and the different levels of development were not dependent on age but on degree of exposure to modern Russian culture. Consequently, the stage of concrete-operational thought seems to be tied to socio-cultural environment. This suggests that Piaget's developmental scheme is not a universally applicable scheme, but rather one that applies in a narrower environment, where literacy and socio-cultural relations are similar, such as modern Western society. Conversely, Vygotsky's theory that cognitive development depends on both biological and socio-cultural factors is more generally applicable.

Luria's study establishes a connection between socio-cultural stages and cognitive development. At the end of the previous chapter, I tried to establish a similar, though loosely drawn, connection between the stages in Perry's model and stages of western socio-cultural development. In Luria's work, we find a development from concrete-operational thinking in an essentially feudal culture to abstract connections in the modern, technological society. In Perry's model, I noted a connection between Dualism and feudal culture, Relativism and existentialism, and Commitment and post-existentialism. Perry himself points mostly at the connections with existentialism (Camus) and post-existentialism (Polanyi) and his own description of his stages. Where Perry points loosely at connections between socio-cultural environment and forms of thought, Luria does so more explicitly and elaborately. In the next section, we will see that Bruner, too, suggests a connection between socio-cultural environment and dominant forms of thought. In the last section of this chapter, with the help of Bruffee's descripion of social constructionist thought, I hope to further explain these types of connections and their consequences for composition teachers.

Meanwhile, as far as composition teachers are concerned, Luria's research suggests that exposure to an educational environment can play the same role for students as exposure to modern Russian culture did for the peasants of remote regions. That is, long term exposure to the forms of thought typical of our educational system, abstract, analytical thought forms, will help students move from concrete-operational thinking to formal thought in those areas where they have not done so. Formal education can help students learn to transform the personal, experientially based kinds of relationships they already recognize into the abstract, complex kinds of relationships so highly valued in modern Western culture. Also, such exposure can, presumably, help students achieve higher levels of abstraction than they were already capable of. Luria's work also suggests that the transition from concrete-operational thought to formal thought is not an easy one. One conversation, even studded with suggestions and hints, did not provide the bridge the peasants needed to be able to categorize the four items in their test. Only after two or three years of exposure was it possible to speak of a noticeable difference between previous and new forms of thinking. Thus teachers--and administrators--should be modest in their immediate expectations when they try to teach new forms of thinking, and aim for the long-term results.

II. BRUNER: ABSTRACT THOUGHT AND WRITTEN LANGUAGE

Jerome Bruner made a number of contributions toward developing Vygotsky's theories. Like Vygotsky, he holds that "man's intellect . . . is not simply his own, but is communal in the sense that its unlocking or empowering depends on the success of the culture in developing means to that end" (Relevance 7). In other words, like Vygotsky, Bruner accepts a biological basis for intelligence, and sees social interaction as a way to actively develop biological potential.

Bruner refines Vygotsky's notion of mediation in that he distinguishes three forms of representation: the enactive, the ikonic and the symbolic. In the enactive mode, we know and learn through action. For example, we know how to ride bicycles or drive cars or tie shoelaces by repeated performance of such acts. The sequences of movements involved in each action have been summarized in a model or blueprint for motor activity. The enactive mode is, then, very similar to Vygotsky's description of tool use. The ikonic mode of representation involves knowing and learning through a summarizing image. For example, we know what our kitchens look like because we can evoke an image that contains many individual details. The third mode of representation, symbolic learning, is abstract, and goes beyond direct physical or visual experience to the hypothetical. Language is the "typecase" example of a symbolic system (Relevance 7-8). Each form of mediation is a way of creating models, which according to Bruner are summarizing structures to help reduce the confusion of information bombarding our senses. Since our short term memory can only manage a limited number of items, such summarizing models are vital to humans' capacity to respond appropriately to environmental stimuli (Relevance 5). Bruner's notion of cognitive models is very similar to Vygotsky's notion of cognitive structures.

Bruner's modes of knowing and learning are mastered consecutively, along lines parallel to those of Piaget's stages. The principles that guide this development are a condensation of Piaget's four constants (time, causality, space, and conservation). Bruner uses two constants:

"invariance" and "transcending of momentariness." Invariance is defined as "the recognition of kinship and continuity in things that are transformed either in location or appearance or in the response they evoke," e.g., it involves the recognition of identity of an object seen from different angles or in different shapes, such as water poured from a tall, thin glass into a wide, shallow bowl. Transcending momentariness is described as the capacity "to sense coherence over larger and larger segments of experience." The example Bruner gives is of a child who said of the larger of two half-filled glasses that it was fuller, and a little later said that the same glass was emptier. When the child was confronted with this contradiction, he found it silly. His logic worked in each situation, but his logic was such that it could not bridge the two moments (Relevance 13-14).

Guided by these two principles, the three forms of mediation develop. First the child learns by acting on the world around him. Thus a child learns about the identity of objects through the enactive mode. In time, it moves to the ikonic mode, which is a representation of the world "based very heavily upon the appearance of things." Here, the child learns, for example, that the quantity of water transferred from a glass to a bowl remains constant. Then, "in good season, and always with the help from the culture," the child learns to develop symbolic or linguistic models (Relevance 13). The principle of invariance is, then, a way of overcoming the boundaries of each mode of learning. First the child learns that, despite different actions, the object's identity remains constant. Next, she learns that despite different images (its change in appearance) its quantity remains constant. The progression of Bruner's scheme of development is, on one hand, similar to Piaget's in that it recognizes cognitive growth as manifesting increasing control over certain principles. On the other hand, his scheme is similar to Vygotsky's in that development is not exclusively biological but proceeds through mediations that are formed through interaction with the social environment.

Bruner notes that Piaget's studies of development, influential as they are, are limited in that they study only one variable, age, within the confines of one social group, middle class children who are members of Western culture. In the cross-cultural studies that have been done in the Piagetian mode, children from other cultures are consistently depicted as "lagging behind" Western European children. Problems with standard IQ tests, as well as a number of cross-cultural studies, have shown that culture is an important factor in cognition. According to Bruner, cultural differences were not noticeable in the perception of cues, but in the inferences drawn from them. He concludes that only "by comparing children of different ages in extremely different cultures [can we] ask the developmental question in its most radical form." Hence Bruner's own studies focus on two cultural constraints: a cognitive constraint, language; and an ethical constraint, consisting of a value. The value he examines in his studies is collective versus individualistic orientation, because these values represent a "world view about origins and existence and [are] not merely a normative matter" (24).

Bruner recognizes that accepting social interaction as a shaping force of cognitive functions implies accepting ethics as a shaping force as well. Like Perry, he intertwines the ethical and the intellectual. Like Perry, he uses the term "world view" to embody both aspects of knowing. And, like Perry, he does not elaborate on the connection between ethics and cognition. However, unlike Perry, Bruner clearly begins by pointing at the social nature of learning, which warrants the connection of cognitive and ethical, because both forms of knowing are shaped by the same social influences. Also, Bruner indirectly justifies his use of the term "world view" when he says that cognition consists of the creation of forms that reduce the influx of experience to manageable structures (*Relevance* 5). Clearly, Bruner assumes that based on his perspective on learning as influenced by social context there is no further need to justify his intertwining of the cognitive and the ethical dimensions. Thus Bruner provides us with a logical inference from Vygotsky's theory that learning is shaped by social influences: ethical and cognitive development are both shaped by social influences. This inference is crucial to the relevance of this learning model to composition teachers because it suggests that a teacher should address both aspects of learning in the construction of a course curriculum.

Bruner uses Piaget's terms "animism" and "realism" to demonstrate two different value orientations. In Piaget's description of the pre-operational stage, the child moves from complete egocentrism to a stage where inner and outer are distinguished but confused (Piaget *Six Studies* 36-53). When the external world is explained in terms of characteristics of the inner world, we have "animism"; much like the literary phenomenon where human characteristics are attributed to animals. Conversely, when the inner world is explained in terms of the outer world, we have "realism" (Bruner 26). Bruner claims that animistic thinking is typical of individualistically-oriented industrial societies. He relates animism to artificialism, the tendency to see all physical phenomena as made by and for humans, and claims that individualistic cultures value the distinction between objects and people because they value the individual's power over objects. Consequently, self-consciousness is prevalent in such cultures. Contrastingly, in a collectively oriented society animism never occurs, because collective societies value relationships between people over those between objects and people. Control over objects in "primitive" cultures is simply not that important. Self-consciousness is consequently not prevalent in these types of cultures. Furthermore, Bruner holds that individualistic cultures actively encourage physical control over objects in the sensory-motor stage, while collectively-oriented cultures encourage motor control (26-34).

With his research, Bruner establishes a connection between this cultural value orientation (animism versus realism) and typical modes of thought. He argues that animistic, individualistically-oriented cultures tend to rely on abstract forms of thought. Conversely, realistic, collectively oriented cultures rely on non-abstract thought processes. Bruner implies, then, a causal relationship between cultural and cognitive variables. Animism, the emphasis on the individual as separate from objects, leads to self-consciousness and the ability to abstract, whereas realism, the emphasis on the individual as part of a holistic network of people and objects, leads to non-abstract thought processes. Bruner also finds that people with the realist world view tend to rely on social explanations rather than on logical or abstract explanations.

Bruner studied the variables of cognitive and cultural orientation in his experiments in Senegal with Wolof and French speaking children. He studied three groups of Wolof children and adults (Wolof is the main ethnic group in Senegal): 1. unschooled rural children and adults; 2. bush school children (i.e, rural children attending village schools; 3. city school children. Although the language of school instruction is French, all children were questioned in Wolof. There were three age classifications within each group: first, third, and sixth grade. The unschooled Wolof children are part of a collectively oriented culture, whereas the schooled children had been confronted with the individualistically oriented French culture, especially when schooled in the city. He found that the unschooled subjects displayed realistic, non-abstract thought processes, while the schooled subjects displayed a greater tendency to animistic, abstract forms of thought.

Unschooled Wolof children demonstrated unfamiliarity with the notion of self-consciousness. They were incapable of answering a question that presupposed such self-consciousness. Bruner would perform the kinds of experiments Piaget and Luria used: groupings of cards, or pouring water from a short, wide glass into a thin, tall one. He would then ask them for the reasons for their answers, such as, "Why do you say that this glass has more water than this one?" Bruner relates that such questions would not be understood when posed to an unschooled Wolof child. However, if the question was rephrased to "Why is such and such true?" the question could often be answered easily. He explains that the idea of explaining a statement involves a distinction between thought and the event, a distinction foreign to a realist thinker. Explanations of events can be given by realist thinkers, but not explanations of statements, because they involve self-consciousness (25-6).

An example of realist explanation occurs when events are explained according to "magic." For example, in the experiment involving pouring water from the wide to the tall glass, a child would say the two glasses had not the same amount of water because the experimenter poured it. The causal inference is based on the sequence of events: 1. water in a certain way, 2. experimentor's action, 3. water changed. What is unusual to a Western mind about the use of the principle of contiguity in this situation is that the child mixes social events with physical events, because, unlike in western thinking, he does not make a distinction between the physical and social dimensions. Because of his collectivist background, the child relies on social explanations rather than on purely physical ones. Such magical explanations, however, last only as long as the child has no control over the transformation. Power over objects (pouring the water by the child itself) dispells the reliance on magic because the child knows from experience that it possesses no magic, and hence necessitates the consideration of other types of explanation.

A similar reliance on social relationships is found in experiments involving grouping sets of cards. Bruner found two types of grouping. The older children more frequently classified on the basis of common attributes, forming super-ordinate groups. However, the younger children would group according to whether things fit in a story, for example (27). Narrative grouping is, then, an aspect of realist thinking; the subjects relate to objects not in an abstract fashion, but from the perspective of human relationships. In individualistically-oriented societies, where the power over objects is a central concern, magical or socially-based explanations are less likely to occur.

Bruner's distinction between individual and collective cultures would explain why Piaget centered his developmental scheme around the individual's control over objects: the progression from the sensory-motor stage to concrete operational to formal occurs via increasing ability to manipulate objects. While Piaget's studies explain cognitive growth in the context of the individualistic, industrial cultures he examined, Vygotsky's and, subsequently, Bruner's perception of tool use and language as symbolic actions provides us with a scheme that is capable of addressing cross-cultural developmental questions.

Bruner's distinction between value orientations of collective and individual cultures can be related to Luria's distinction between feudal cultures and modern Russian technological society. Luria's subjects fell into two groups, where the unexposed peasants would generally group based on relationships of events or actual relations to objects (graphic-functional), and the semi-literate peasants would generally group based on abstract classification (mediated). The modes of thinking that characterized Luria's unexposed peasants are very similar to the narrative mode of thinking Bruner ascribes to realist-thinking, collectively-oriented cultures. Conversely, the kind of abstract thinking and self-awareness that characterized Luria's semi-literate peasants, and that characterizes modern Russian thought forms, is very similar to Bruner's description of super-ordinate modes of thought in animistic, individualistically-oriented industrial societies. In Bruner's terms, then, we can call Luria's graphic-functional stage "realist thinking," and Luria's mediated stage "animist thinking." Or, Luria's feudal culture can be characterized as collectively-oriented, and his technological modern Russia as individualistically-oriented.

Bruner's terms can also be applied to Perry's theory, and can help explain the development of his stages. In Perry's scheme, the Dualist thinker can be compared to Bruner's collectively-oriented thinker, and the Relativist thinker can be compared to Bruner's individually-oriented thinker. A Dualist thinker has no particular need to be aware of herself as having an identity separate from her group, because she so totally and unquestioningly identifies with the beliefs of her group. A Relativist, by contrast, must have developed the ability to see herself as separate from her group to be able to accept conflicting views as having their own legitimacy. A Relativist must be able to use abstract forms of thought in order to be able to group sets of beliefs pertaining to different perspectives, while a Dualist has less need for the ability to think abstractly. In other words, we are beginning to be able to form clusters of concepts gathered from the different thinkers so far discussed. Perry's Dualism, Luria's graphic-functional stage, Piaget's concrete-operational stage, and Bruner's collectivist orientation all seem to describe a similar world view. Similarly, Perry's Relativism (and Commitment), Luria's mediated stage, Piaget's formal stage, and Bruner's individualist orientation all seem to point at a similar world view. For the composition teacher, this loose clustering of terms results in a strengthening of the idea that formal education affects students both cognitively and ethically, and emphasizes her need for a model that will help her cope with these variables in an organized and constructive way.

Bruner notes that school makes the crucial difference in the cultural orientation of children. After seven months in school, children have begun to develop self-consciousness, and the subsequent individualistic world view. Bruner believes this transformation occurs because the child learns to write. Writing, according to Bruner, teaches one to perform abstract actions, because the referent (the object the sign refers to) is absent (47). This is exemplified by his experiments involving language. The task was to group sets of cards that could be grouped by function, by color, or by shape. One set would include a yellow clock, an orange, and a banana: 2 round objects, two pieces of fruit, and two yellow objects. The Wolof language does not have many words for color, so the researchers hypothesized that the unschooled Wolof children would not choose categorization based on color. However, they did, and so did the city children, while village school children chose this distinction least. Bruner argues that the problem with the initial hypothesis lies in the idea of paralleling language acquisition with cognitive development, rather than seeing language as an instrument for organisation. The unschooled children would explain their choice by saying both were yellow, while if the schooled children chose this type of grouping, they would use the categorical term "color" more frequently. Hence Bruner concludes that language does not affect perception of clues, but rather their organization. The schooled children were adept at categorizing because, although they were tested in Wolof, they had been familiarized with literacy by learning French, which, in contrast to Wolof, is a written language. Thus their capacity to abstract was learned through mastery of written literacy.

Bruner's correlation of written literacy and thought processes is similar to and different from the Sapir/Whorf hypothesis. Chase Stuart, in his Foreword to Whorf's Language, Mind and Reality, explains that Whorf had two major hypotheses:

1) All higher levels of thinking are dependent on language
2) The structure of language one habitually uses influences the manner in which one understands his environment. The picture of the universe shifts from tongue to tongue (Stuart in Whorf iv).

Both Whorf and Bruner see a strong relationship between thought processes and language. However, Whorf focusses on how words divide the universe in units, thus affecting our perception and hence thought processes (240-241). Bruner's last experiment, where the unschooled children used a color word despite the fact that their language does not contain many, shows that words do not affect perception, or thought processes. Rather, Bruner suggests, the absence of concrete objects in the use of written language teaches the individual to be aware of abstract relations. Semantic and syntactic relations become a conscious process only when language is in written form because it is a symbol system of a symbol system. For example, the use of oral language is not self-conscious, but the use of written language is. Hence written language is especially helpful in teaching categorization and other abstract relationships. Bruner's findings confirm the Sapir/Whorf hypothesis that higher levels of thinking are dependent on language. However, Bruner's findings also indicate that the correlation between language and thought does not occur on the surface level of word meaning, but on the deep-structure level of inherent structures in language, particularly the abstract forms that are learned through written language.

Based on Bruner's research, we can infer that the presence of written language in a culture may well reflect the ethical distinction Bruner drew between individualistic and communally oriented cultures. In his studies, there was a clear correlation between degree of exposure to written language and the ability to abstract. We found a similar correlation in Luria's studies, described earlier. There, the peasants who were exposed to modern technological society showed a distinctly greater ability to abstract, in contrast to the unexposed peasants. Their exposure to modern Russian culture included exposure to literacy. Thus we find in Luria's studies the same correspondence between literacy and abstract thinking that Bruner found in his research. From ths research, we can also argue that the hints of Luria's researcher in the exerpt we quoted did not sufficiently help the peasant subjects achieve the desired abstract categorization because the subjects had not been exposed to literacy, and hence lacked the abstract thought categories necessary to categorize as the experiment demanded. Exposure to written language seems to be the crucial element in developing abstract thinking categories.

Also in Western culture we find this correlation between exposure to literacy and collective versus individualized thought patterns. Urban American blacks often live in a predominantly oral culture, and display the characteristics Bruner ascribes to individuals from collectively oriented cultures. In one of my classes, during a discussion on the relevance and success of high school education, students in small groups gave many reasons for their various positions, ranging from the desire to learn being greater in a voluntary education situation, to personal maturity, to state and government funded support for education. One group consisted of three urban black girls, who had great difficulty in this freshman composition class, due to their inexperience with written language. These three girls had one major complaint which they insisted had one obvious, all-explanatory reason. Their complaint was that their high school education had been inadequate. The reason for this, they maintained, was that their teachers were unpleasant people who did not care about students. This explanation is purely social; it blames the problem on people, and takes into consideration only those factors that are relevant to successful group interaction. They did not complain about their teachers' qualifications, level of education, workload, salary, or support from their institutions or state and federal government. Neither did they see much use for these more abstract explanations. What mattered to them, what was clearly relevant to them, was their teachers' social skills. The inability or unwillingness of these three girls to abstract is related to their cultural background, which is collectively oriented, and where literacy is at best a marginal influence. In such an environment, abstraction is not a relevant skill. Hence the girls' lack of interest in non-social, abstract types of solutions. One of the functions of college composition is clearly to expose students like these three girls to the skills of literacy: reading, writing, and abstract thought, so that students learn to think in the abstract categories valued in Western society. In the next chapter, we will see how college composition can not only introduce abstract thinking skills, but can also refine and elaborate such skills for those already capable of abstraction.

Bruner has, then, provided an additional distinction to the connection of language and learning Vygotsky first noted. From Bruner's research, and, by implication, from Luria's research, it is clear that the kind of abstract thinking needed for categorization and other super-ordinate relationships occurs because of participation in formal education, particularly in learning to write. We recall that Vygotsky emphasized the relationship of complex thought and speech. Bruner, however, emphasizes the role of _written_ language. Their respective positions do not necessarily contradict each other, but can be seen as complementary. A reasonable connection may be that speech teaches _the use_ of generalizations such as implied in the word "table," while written language allows one to _become aware_ of the kind of mental operation needed to understand such generalizations. In other words, speech allows one to apply the generalizations language implicitly provides, while written language allows one to analyze categories implied by language. Such awareness of types of operations allows one greater control over the performance of such operations. Hence a literate person will be able to _create_ new categories based on common attributes. An important difference between Vygotsky and Luria is, then, that while Vygotsky studied how speech teaches us to use (sub- or un-consciously) categories of thought, Bruner studied how written language allows us to become conscious of, and hence manipulate and create, abstract categories of thought.

This new connection between written language and thinking is particularly enlightening for the college level composition teacher. Based on Bruner's (and Luria's) research, written language can now be thought of as the creator of abstract forms of organization, which dictate one's perception of experience. College composition teachers are not the first ones to confront students with the basic skills of literacy. Freshmen, however underprepared, generally are familiar with essential notions such as spelling, words, sentences, and paragraphs, even if they do not fully master these notions. However, freshman composition courses are often the first intensive confrontation students have with writing. In most high schools, the work in English classes centers around mastery of grammar and on reading literature. Neither of these aspects of the English language necessarily force the student to grapple with the structuring aspects of language. By doing her own writing, a student can learn that language shapes the writer's and readers' perception of reality, because language organizes perception. While it may not be impossible to convey this structural understanding of language through grammar and literature, expository writing is the most direct avenue to a student's awareness that language functions as an organizer and structurer of reality. In "doing" writing, the student is actively involved in manipulation of structures, on the levels of perception (invention), organization, and style, much like our example of D'Angelo's use of Aristotle's topics. If the teacher emphasizes this structuring aspect of language, composition courses can potentially be very effective in teaching abstract thinking.

Hence college level composition teachers are in a position to enrich the meaning of the word "literacy" to mean not just the control of basic skills of writing, but an increasing understanding of how language structures thought. A model of how such an understanding of language grows is provided in Perry's model. We have seen how Dualist thinkers, because of their collectivist world view, are not likely to be self-conscious, or to think in abstract categories. Relativist thinkers begin to develop both self-consiousness and abstract thought patterns. Perry maintains, and I think many composition teachers will agree, that many freshmen are either in the Dualist stage, or in the transition between Dualism and Relativism. The composition teacher can, then, help students traverse the stages of Perry's developmental scheme by teaching writing as a way of organizing experience. The pedagogy I will develop in chapters 3 and 4 is intended to help the college level composition teacher approach writing as ways of organizing perception.

III. FISH: INTERPRETIVE COMMUNITIES, THE MAKING OF MEANING, AND PERSUASION

In Is There a Text in This Class? The Authority of Interpretive Communities, Stanley Fish presents a theory of literary interpretation that closely coincides with the perspective on literacy and learning that I have thus far tried to articulate. Fish's thesis is that meaning is determined by the conventions and agreements of interpretive communities, which shape texts, writers and readers. What he is saying, then, is that meaning is socially determined. According to Fish, truth or meaning is located neither in the text, as formalist criticism dictates, nor in the individual reader, as reader response criticism sometimes suggests. It follows that meaning is neither wholly objective, nor wholly subjective; it is, says Fish, relative to the "situation" (307). Fish denies the possibility of purity of extremes (objective versus subjective, or text versus reader), and replaces binary thinking with a kind of relativist thinking that is constrained by communal conventions and assumptions. This social constraint is crucial to his argument, he argues, because on the one hand it prevents his relativism from being purely subjective in that social conventions shape a reader's interpretation of a text, while on the other hand he avoids total objectivity because social conventions are subject to change. In this socially-constrained-relativist perspective, literary criticism is no longer a matter of demonstration of meaning; instead, it has become a question of persuasion, occurring between interpretive communities, regarding their respective assumptions.

Thus Fish's thinking displays clear parallels to that of Vygotsky and Bruner. Vygotsky maintains that thinking is shaped by socio-historical context, and cites tool use and language as the main social instruments for shaping individual thought. Bruner refines this notion and says that thinking is shaped by socio-cultural values, and points at education, particularly in written language, as the major shaping forces. Fish then further refines the idea of social influence by subdividing cultural influences into those of various interpretive communities. He, like Bruner, points at the value systems of such communities as the basis for distinguishing among them, but, unlike Vygotsky or Bruner, looks at the way such communities interpret language (text) differently as evidence of the existence of such communities rather than seeing language as instrumental in shaping the differences between communities. Yet Fish shares with Vygotsky and Bruner the notion that meaning derives from social institutions. As Fish describes it, meaning derives from the interests, goals, norms, and values of social communities (Fish 14-15; 318-319).

Fish's distinction of the social influences of specific social groups is in fact closer to Perry's understanding of how social entities affect the individual than either Vygotsky's or Bruner's perspectives. Perry is concerned with the influence of the academic community on the thought processes of college students. Thus Perry's study concerns a small scale application, as it were, of the larger scale concerns of the psychologists we examined. Vygotsky looked at how social interaction (in general) affects individual thought processes (in general). Bruner narrows down, studying how cultural values and literacy (specific aspects of social interaction) affect individual thought processes (in general). Perry in fact narrows down even more, studying how one social institution, the academic community, affects the thought processes of some of the members of this institution, college age students. In this hierarchy, Fish fits between Bruner and Perry, because he studies how interpretive communities (sub-groups within a culture) affect readers (i.e., particular kinds of individuals). Both Fish and Perry assume the same overall framework of social influence on individual thinking, but both study sub-groups within the culture, and both focus on particular kinds of individuals. I placed Fish above Perry in the hierarchy because there are, presumably, more readers than students, and more interpretive communities than the academic community. Perry's academic

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community can, then, in Fish's terms, be described as an interpretive community, with its own set of goals, values, interests, and norms, and hence with its own specific influence on individual thought processes.

Fish makes explicit two important points implied in the work of Vygotsky, Luria, Bruner, and Perry. One is that locating meaning in social institutions rather than in external facts suggests a relativist world view. Vygotsky, Luria, and Bruner never directly address the conflict of subjectivity versus objectivity versus relativism, but Fish posits relativism as an unavoidable consequence of locating truth in a community rather than in the external world. If the truth is not in the external world, out there to be discovered by us, then there is no room for objectivity, which, as the term itself indicates (object- ivity) places the norm for truth in external objects. Fish is very careful not to argue for its linear opposite, what he calls "rank subjectivism," the kind of subjectivism where there is no shared norm for interpretation, where, consequently, all readings would be equally valid, and where there is no point in such a thing as literary criticism because, in the absence of a norm, there is no basis for an interpretive system. Instead, he suggests that in emphasizing the role of communal conventions we can dissolve the dichotomy of subjective versus objective.

In effect, Perry posits a similar need for a form of relativism in the structure of his developmental stages. He maintains that the confrontation with cultural and ideological variety forces the student to reconsider her norms for truth, leading to the existentialist-like stage of Relativism. Then, however, the student must re-create new norms, which she does by choosing among existing groups. Perry does not describe this process of moving from Relativism to Commitment in great detail, presumably because he is, in Intellectual and Ethical Development, more interested in describing the stages than in studying how the transformations take place. His emphasis on description over explanation stems from his mentalist approach. Encouraged by the explanatory research of Vygotsky, Luria, and especially Bruner, who emphasize awareness and self-consciousness as important aspects of cognitive development, I picture the transformations in Perry's model as the gradual development of greater awareness of world views other than one's own, and of subsequent greater self-consciousness of one's own motives. Perry's Relativism would then be the stage in which differences in world views of various social communities are gradually perceived as a result of differences in interests and motivations. Such awareness is likely to cause a questioning of one's own motives. This leads to greater self-consciousness because the relationship between one's motives and interests and one's membership to various communities (family, church, friends, and so on) becomes clearer through self-questioning. When, as a result of this scrutinizing process, discrepancies become apparent, adjustments in loyalties to particular social institutions are likely, leading to new and/or renewed commitments.

For example, we can imagine how in say, 1970, a young man who is both religious and patriotic is drafted to fight in Vietnam. He is eager to comply, despite the fact that at this time many protests against the war are taking place. Through a series of intense conversations with a pacifist, our young man becomes confused about the moral justifications of this or any war, and consequently about his decision to join the army. As a result of his confusion, the young man examines his own motives for going, and discovers a discrepancy or conflict in his two primary values: Christian love does not work well when you are a soldier killing to defend your country's interests. Our young man then decides to become a pacifist, and escapes to Canada. In this hypothetical example, the move toward Relativism is made when the young man decides to listen to and talk with the pacifist. At that time, he becomes aware of motives other than his own, which leads to confusion about right and wrong. This leads to a re-examination of his own values, which leads to the uncovering of a conflict between Christian love and the patriotic duty of fighting for one's country. In response to this new awareness, the young man chooses to re-commit himself to Christian values, as well as to re-define his commitment to patriotism, thus abdicating his membership in the community to which he initially belonged. Instead, he makes a new commitment to the social institution of the pacifists. Thus, in this example, the development from Dualism to Relativism to Commitment is characterized by an increasing awareness and subsequent self-awareness, which shape the direction of new Commitments. (The example is, ofcourse, an oversimplified depiction of such a drastic transformation in world view.)

The student in Perry's model has to overcome the confusion that is likely to result from an in-depth investigation of conflicting views. Such confusion, Perry notes, may result in a no-norm, "rank" subjectivism, causing the student to feel that "everyone has a right to their opinion" (Position 4 in Perry's scheme) because, from this perspective, there are no norms to value some opinions over others. To overcome this extreme subjectivism, the student in Perry's model must come to the realization that the values and interests of social institutions dictate their perspectives, and that meaning is determined by social institutions rather than by some absolute abstract entity. Only then can he evaluate the congruity between his own motives and interests, and those of the social institutions he belongs to, and, based on this evaluation, make his Commitments. The student's choosing among social institutions, in Perry's stage of Commitment, resembles Fish's notion of socially-constrained relativism, because both involve an understanding of truth as defined by a community's motives and interests. Perry's student and Fish's reader both move toward a socially-constrained relativism. Thus Fish's theories provide another bridge between the work of the cognitive psychologists and that of Perry. On the one hand, Fish, like the psychologists, emphasizes the role of social structures in the determination of meaning. On the other hand, like Perry, Fish emphasizes the relationship between social structures as the locus of truth and a socially-constrained relativist world view.

The second point Fish makes explicit is the inevitability of argument and persuasion as major modes of communication in a relativist world view. In the last essay in Is There a Text, he explains that in a world of absolute truths, one can demonstrate truth, but in a socially-constrained relativist world view, persuasion is the means to agreement because in persuasion one can establish grounds for agreement, rather than automatically assume the presence of such grounds. Perry hints at the connection between relativism and argument when he suggests teachers should present a plurality of views in the classroom and let the student choose among them, but it is no more than a hint. However, this connection between relativism and argument is central to the pedagogy to be developed in the next chapter, in which I will link Perry's developmental model with a composition pedagogy centered around argument and persuasion.

Fish's text, Is There a Text, takes a persuasive stance, both in tone and in organizational structure, presumably to illustrate how literary criticism is a question of persuasion, as well as to show how his own thinking was shaped by the social institutions of which he is and was a part. Because the form of Fish's text exemplifies his position, my discussion of his theory will, in rough outline, follow his form.

Is There a Text is a collection of essays, organized to reflect Fish's development as a critic. In his Introduction, he analyzes this development, beginning with his reader response position as a reaction against formalist criticism, and moving toward the thesis of the collection. He describes how an essential premise of formalist criticism is that any understanding or knowledge a reader has before and even during reading a unit (a sentence, a line, a text) must be discounted. Only those understandings that emerge after reading a text can be counted as relevant to the interpretation of that text. This formalist premise is based on their belief that authority of meaning lies within the text itself. Fish was troubled by this notion of absolute authority of the text. He felt that what the reader does is also part of the "meaning experience," and that what the reader knows before her confrontation with a text should not be discarded (3-4).

Fish then conceived of "understanding" as a two step process, where the act of reading would be the basis for a somewhat uniform understanding, based on a shared knowledge of syntax, and the act of interpretation would account for individual differences. A problem in this position, he notes, is that it is unclear whether the text is a constant or not. He describes how his response to this objection depended on the position of the objector. If the objector wished the text to be normative, that is, if she wished the norm for interpretation to lie in the factuality of the text, then he would refer to the syntactic objectivity of the text. However, if the objector had wanted the reader to be normative, that is, if she wished the norm for interpretation to lie with the reader's experience of the text, then he would show how his notion of individual interpretations shifted responsibility for meaning to the reader (7).

Although he did not, at the time, recognize this inherent contradiction, in retrospect he claims that his problems resulted from a fear of the subjective and the relative, and notes that unwittingly he had begun to solve this problem in the essay "How Ordinary is Ordinary Language" (97-111). There he denied the literary position that only literary language has values, intentions, and purposes, and claimed instead that ordinary language possesses these same qualities. He argues this position by describing the battle of linguists and literary critics about their respective contributions to interpretation of literary texts. Fish points out that linguists and critics share a positivist understanding of language, which he describes as follows: 1) the content of language can be separated from human values, so that language is "pure," and 2) hence there is a need for an entity to hold those human values, which is fulfilled by literature. Linguists then occupy themselves with the first aspect of language, and critics study the second. Thus each represent a different side of the issue, but they share, implicitly, this positivist understanding of the nature of language. Fish then argues that this positivist understanding leads to a double loss; ordinary language loses human content, and literature becomes irrelevant because it has been defined as a deviation of the norm--it is not "pure." As a result, he notes, humanity has become "a deviation from itself," because its very essence, being human, has been defined as a deviation from the "pure" norm (Fish 101-102). The linguists then occupy themselves with the analysis of literature as "pure" conveyors of messages, while the critics argue that such an analysis fails to contribute to an understanding of the literary value of such a text. Meanwhile, the critics occupy themselves, with little success, with attempts to define the literary qualities of literary language.

Fish argues that this inability of linguists and critics to make use of each others' work results from their shared positivist understanding of language. For a solution, he points at Oxford speech act theorists. According to Fish, the speech act theorists define language not as referring to the world or to reality, but as actions. Language thus reflects "commitments and attitudes of those who produce [that language] in the context of specific situations." Hence "the language system is not characterized apart from the realm of value and intention but begins and ends with that realm" (107). The Oxford theorists describe language as "performatives," where language is doing something, such as promising, warning, praising, greeting, and so on. "Performatives" are the opposite of "constatives," the class of pure or context-free statements. The Oxford theorists then show that constatives, the objective, descriptive language linguists claim as their domain, is a fiction, because all language takes place in context and involves someone "doing" something. Thus all language is performative, and carries human values. The approach of the speech act theorists, says Fish, dissolves the positivist dichotomy of pure versus value-laden, or ordinary versus literary language. In their definition, there is only one kind of language, ordinary language, that carries human values.

Fish's description of speech act theory is somewhat of an oversimplification. Speech act theorists such as J.L. Austin did object to the positivist definition of language as always descriptive and subject to true or false evaluations. Based on the idea that language is used in context, they defined other functions of language, beginning with ritual transformations through language, such as wedding ceremonies and christenings. Here language *does* something, and can be described as "performative." Initially, the descriptive function of language that the positivists saw as its only function was redefined by the speech act theorists as a separate class, called "constatives." However, as more classes of performative functions emerged (such as questioning and ordering), the Oxford theorists decided that constatives were a subordinate class to performatives: sometimes the act language performs is simply descriptive (for a fuller description of the development of speech act theory, see J. L. Austin, *How to Do Things with Words*).

Footnote (For a fuller description of the development of speech act theory, see J.L. Austin, *How to Do Things with Words.*) end footnote

The result of the approach of the speech act theory was that language was examined in context, and hence did indeed include human values as integral, as Fish claims. However, they did not reject the notion that there are objective aspects to language, such as its grammar; they merely noted that emphasis on such objective aspects were impractical in the consideration of language *as it is used,* because then these objective aspects occur in non-objective circumstances. Thus the Oxford theorists did not exactly *redefine* language as value-laden, as Fish suggests, but rather they choose to emphasize this aspect. They do not resolve the paradox of objective-subjective, as Fish suggests but merely emphasize a different perspective than the positivists. Nevertheless, their emphasis does have the kinds of implications Fish draws, so I left his argument intact.

Fish notes that acceptance of the Oxford speech act definition of language entails the need for a new definition of what literature, and literary language, is. He concludes that literature is "language around which we have drawn a frame, a frame that indicates a decision to regard with particular self-consciousness the resources language has always possessed" (108-9). Literature, in this description, does not have special properties asking for special attention; instead, it is the fact that readers attend to certain properties that brings out the noticeability of such properties. Literature can thus be characterized as an attitude of the reader. Literature then becomes an open category, open in the sense that the community decides which texts will receive such attention (11). Thus Fish redefines literature as a conventional category determined by communal decision.

Fish thus begins to resolve the conflict of objective versus subjective by shifting responsibility for meaning towards a group with conventions, away from both the text (objective) and the individual reader (subjective). However, in this image of understanding, the reader highlights properties the text already contained. The text has properties that the reader may or may not pay attention to. The image is rather like that of a puzzle that one may or may not choose to solve. Thus the reader and the text can still be seen as competing entities, each with their own controlling sphere of influence: the text has certain properties, and has thus the power of factuality, while the reader has the power of choice, of whether or not to pay attention to the textual facts (12). Fish claims that the final step in overcoming his fear of subjectivity and relativity is taken in the essay "Interpreting the Variorum," where for the first time he confronts the inner contradiction of his theory by asking if, in positing that the reader highlights properties the text already contained, he is not suggesting that meaning is embedded in the text, which is the formalist position he sought to refute. He solves the conflict by positing that the formal patterns of the text do not exist "in the text," but are "a function of the interpretive model one brings to bear" (13). That is, formal features result from the set of reading strategies the reader applies to the text; formal features are not part of the text. Thus neither the reader nor the text are the norm for interpretation; the interpretive model is.

In the title essay, he illustrates how the interpretive model, not the text, shapes a reader's understanding (303-321). He describes how one of his colleagues was confronted by a student in the hall at the beginning of a semester. The student asked, "Is there a text in this class?" His colleague responded, "Yes, it's the Norton Anthology of Literature. "No, no," said the student, "I mean in this class do we believe in poems and things, or is it just us?" (305). Fish explains how his colleague initially understood the student's question in the context of the bureaucratic business to be conducted at the beginning of a semester, a context relevant to the situation of the question.

However, the student intended a different context for her question, namely the perspectives of various schools of literary criticism, and, by extension, those of her teachers. In this example, meaning is not relative to the text but to the context. The colleague later explained that he subsequently understood the context the student was referring to by thinking "Ah, there's one of Fish's victims" (313). To reinterpret the student's question, the colleague did not do anything to the text itself; instead, he looked for, and found, another context with which he redefined the meaning of the specific signifier. Fish claims that the context dependency of language does not mean language can mean anything at all; rather, the "natural" meaning depends on the normality of the context. That is to say, the colleague's first interpretation was the most natural to select, because it was the most obvious context (student and teacher discussing required materials for a course at the beginning of a semester). Normal interpretation is, then, the one that is contextually most likely. The context the student intended applied to a much smaller group, namely those students who had been subjected to Fish's courses, and was therefore less likely, but still quite plausible. Fish calls this degree of plausibility of contexts "institutional nesting" (308).

Fish uses the terms "context" and "institution" interchangeably because the kind of context he has in mind results primarily from social structures, not, or only subsequently so, from physical environment. In this particular example, the contexts he is referring to, the university and the schools of literary criticism, are social institutions. Fish argues that meaning always exists in context, because it is always socially determined. He points out that if we don't recognize the contextuality of a meaning, it is because "some institutions or forms of life are so widely lived in that . . . it takes a special effort to see that they [the resulting meanings] are the products of circumstances" (309). He claims that it is impossible to conceive of a sentence independently of a context, and that if we are asked to do so, say in a grammar book, we compensate for the absence of context by imagining the most likely one. The Oxford speech act theorists express a similar sentiment when they claim that meaning is in the uses of sentences, not in contextless sentences or propositions (Austin 1). This sentiment formed the basis of their perspective on language as performative and value-laden.

Fish's notion of meaning is very similar to Vygotsky's and Bruner's notion of cognitive structure. To Fish, understanding is a function of categories of meaning which are products of social institutions. He explains that his colleague was able to reinterpret the student's question because the context she referred to was familiar to him. It was "already part of his repertoire for organizing the world and its events" (313). The "category of meaning" is a means of organizing the world. Furthermore, he claims that new categories of understanding always come from the outside (314). Categories are learned--from social institutions. Thus contexts, or institutions, create categories of understanding that organize the world. Vygotsky's and Bruner's cognitive structures do exactly the same; they organize experience. In both the litarary and the psychological perspective, forms, learned through social interaction, serve to organize the world, thus endowing it with meaning. Hence Fish's use of the word "meaning" can be equated with the psychological concepts of cognitive function and structure.

Fish illustrates most clearly that meaning is a product of formal patterns of perception in his essay "How To Recognize a Poem When You See One" (322-337). Here, he describes how he asked a class that had spent weeks learning to interpret religious poetry of the seventeenth century to treat a list of names, which was a homework assignment for the preceding class still on the board, as a poem. The list of names was as follows: Jacobs, Rosenbaum, Levin, Thorne, Hayes, and Ohman. The students managed to extract an explication of the list/poem that would have fully satisfied a scholar of religious poetry. While a full reproduction of their analysis would be too lengthy, let me highlight some of their tactics and discoveries. Students first began to look at individual names as references to religious symbols. Jacobs, for example, could be taken to be a reference to Jacob's ladder, a traditional figure for a Christian's ascent to heaven. The means of ascent in this poem, they said, was not a ladder but a tree, based on the name Rosenbaum (German for rose-tree). Rose was also taken to be a reference to Mary. After all names had been assigned a significance in this manner, students began noting larger structural patterns, such as the balance of Christian and Hebrew names (half and half), which they saw as a reflection of the old testament and the new. Finally, students started counting letters, and found the most prominent letters to be S,

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O, and N, which was taken to mean the presence of Jesus Christ as a reconciliation of the old and the new testament's laws.

As Fish notes, because they were asked to treat the list as a poem, they assumed the presence of poetic principles, such as more intricate organization than ordinary communications, the presence of a central insight, relationships between words and between words and the central insight, and the notion that everything is there for a reason (326). It was the purpose, Fish argues, that evoked the forms which lend significance to the object. The knowledge that the object was a poem evoked the use of formal poetic principles, which led to a particular interpretation:

> As soon as my students were aware it was poetry they were seeing, they began to see with poetry-seeing eyes, that is, with eyes that saw everything in relation to the properties they knew poems to possess (326).

Hence meaning results from particular interpretive strategies. As Fish puts it: "interpretation is not the art of construing but the art of constructing. Interpreters do not decode poems; they *make* them" (327; italics mine). These interpretive strategies derive from institutional structures, and are learned. Interpreting the list as if it were a poem involved knowing what formal principles structure poems; the knowledge of such principles was learned from English teachers in the university. Similarly, seeing the list as a homework assignment requires familiarity with the notion of universities, with what goes on inside and outside of classrooms, and with what it means to be a student. Even seeing the list as a list involves familiarity with notions of hierarchy and organizational structures. Each act of understanding, each act of interpretation, takes place within the framework of the perspective of a particular institution (331).

Thus the reader makes meaning, but only as a member of a social institution. Meaning is a product of categories of understanding, which are "community property" (14). Fish notes that the notion of interpretive communities now becomes central in his thinking. He has come full circle in his argument against the formalist critics; interpretive communities produce the formal features which create meaning, which thus exist before the individual's confrontation with a text. The conflict between entities, text versus reader, has been resolved. This solution also dissolves the conflict between objectivity and subjectivity. Meaning is not purely subjective, because it is a product of conventional categories. Not the individual, but the group determines meaning. Neither is meaning purely objective, because those conventional categories are subject to change. Literary communities change their values regarding interpretive strategies. The emergence of reader response criticism, with its previously unacceptable emphasis on the role of the reader in understanding text, is a recent example of change in communal conventions about how to read and interpret literature. With the perspective on ordinary language as contextual and value-laden based on Oxford speech act theory, and his own definition of literature as a community-determined category, Fish is able to describe the reader as actively involved in interpretation of a text, without losing a normative basis for an interpretive system. Fish's description of a reader as an active meaning-maker ties in with the speech act theorists' description of language as performative. Language acts, and the reader reacts--acts in response.

Fish's decision to locate meaning in interpretive communities results in a relativist perspective on interpretation. Literary criticism must now be seen as an ongoing, non-absolute process of determining possible perspectives for reading. Consequently, literary criticism must be seen as a matter of persuasion rather than a matter of demonstration. In the essay "What Makes an Interpretation Acceptable?," he describes the contrast between previous critical schools and his own in terms very similar to Perry's description of his Dualist and Relativist stages. Fish says that "to someone who believes in determinate meaning [i.e., a formalist critic] . . . disagreement can only be a theological error" (338). Their disagreements can be resolved by reference to the facts. Fish's description of formalist criticism is strikingly similar to Perry's description of position 2, where the individual relies on Authority (in literature, the text) for Truth (in literature, meaning). Contrastingly, with Fish's location of meaning in interpretive communities, conflicting views of different subcommunities, such as different schools of criticism, cannot be solved by reference to facts because subcommunities disagree about which facts matter, depending on their goals, interests, norms, and values. This situation is similar to Perry's Relativist stage, where different communities with different value systems compete for claims to partial truth. Here, conflicts must be addressed by examination of the assumptions that gave rise to the interpretive principles, i.e., the goals, norms, values, and interests of the respective communities. The acceptability of a subcommunity's perspective, says Fish, is then determined by the interpretive community as a whole (342). That is, the literary community as a whole determines the acceptability of the norms and values of a new school of criticism. In the next chapter, we will discuss a model of argument constructed by Stephen Toulmin, in which he perceives arguments as claims or positions that logically result from shared beliefs, which he calls warrants. Toulmin's model is ideal for addressing conflicts among groups who disagree about which facts matter, and hence for developing support for an approach to composition through argument.

In this relativist perspective on interpretation, there is no room for demonstration in the sense of proving the Truth by pointing to the facts, because that presupposes an ultimate Truth, and a shared sense of what facts are. If facts or their relevance are under dispute, then agreement can only even begin to be achieved by examining, and disputing, the perspectives from which such disagreements arise. Hence persuasion is the business of literary critics. Critics have to show that their perspective not only produces an interesting meaning, but that the support for their perspective is at least acceptable, at best convincing, to members of different (sub)communities who have other values and norms. Those norms and values need to be addressed. Fish notes that one should never assume one is preaching to the converted. In other words, critics need to justify their interpretation as well as the assumptions from which the interpretation results, to demonstrate how their arguments, as well as the values that inspire their arguments, are or should be relevant to their opponents. They do not "prove" any absolute insights, like mathematicians "prove" a theorem, since in this relativist perspective, there are no absolutes. As Fish puts it, "like it or not, interpretation is the only game in town" (355).

We can now see how the form of Is There a Text illustrates his thesis. Fish's thesis is that the meaning of a text is determined by interpretive communities, whose strategies for interpretation are determined by their interests and goals, which dictate their values and norms. Consequently, persuasion is the primary mode of communication among interpretive communities, in which underlying interests and values as well as the resulting arguments must be addressed in order to begin to achieve a shared understanding. Throughout Is There a Text, Fish has assumed an argumentative stance, which he deems the appropriate stance for a critic. Furthermore, he has addressed the underlying interests and goals of the interpretive community with which he differs most. He has explained the positivist perspective of the formalists, and shown how their position on the authority of the text is a result of that perspective. He has also explained the development of his own motives and interests as they parallel the development of his own position. Thus Fish's attitudes are reflected in the argumentative tone throughout Is There a Text, , and in the arrangement of the essays as an ongoing analysis of the values and positions of the formalists, the reader response critics, and his own developing perspective.

Seeing Is There a Text? as an exemplification of his final thesis also allows us to explain the rather curious fact that Fish never explicitly says why he feels it is necessary to dispute the formalist assumption that meaning lies within the text. From the perspective of his final thesis, disagreement occurs as a result of differences in goals, interests, values, and norms of respective communities or subcommunities. One can, then, assume that the origin of Fish's dispute with formalist criticism is simply a difference in values and interests. He says that he felt that the purely objectivist view of formalist criticism left insufficient room for the reader's previous knowledge. This feeling, one can speculate, may have come from a desire to reinstate the human element in the quest for meaning, possibly based on a sense of being slighted as a human being by the insistence that truth is in facts, not in people. The book, as a whole, is a demonstration of what Fish calls his "right, along with everyone else, to argue for a way of reading, which, if it became accepted, would be, for a time at least, the true one" (16).

IV. PERRY'S MODEL AS METAPHOR

While Fish's position is not radically subjective, it could only have been taken by overcoming his fear of subjectivity and relativity. This struggle is the story of the essay collection, and can be seen as a journey through Perry's model. In the Introduction, Fish describes the relationship of the individual to an interpretive community as one where the individual stands back to observe and choose from communal conventions (11). This image reflects the transitions in Perry's developmental model. It is the moment of confusion, where examination of the values of others has lead to self-examination, in the hope of determining Commitments. The argument of the sequence of essays in Is There a Text in This Class?, outlined in the Introduction, can be seen as a lengthy account of the transformations from Dualism to Relativism to Commitment, with Fish as the central character. He began, Dualistically, as a formalist critic, since he was trained in this method of interpretation. His doubts and confusion about the validity of formalist methods, and his involvement with reader response criticism, reflect his transition to a Relativist phase, where he is aware of other views than those of his original interpretive community, and where he begins self-examination. This self-examination results in his Commitment to the notion of interpretive communities and the role persuasion has in this perspective. The essays in the collection are predominantly concerned with Fish's transformation from Relativism to Commitment.

Thus Fish begins by positioning himself as a member of the community of literary critics, in particular of formalist critics, where his thinking is a product of the conventions of this community, and then develops his position as an individual able to distance himself from his community in order to survey their conventions and choose among them. This fluent relationship between the individual and an interpretive community is the one he describes as the most desirable in his

Introduction (11), and seems warranted in the context of his final position on the simultaneous authority and flexibility of interpretive communities.

This particular stance of the individual regarding communal conventions is similar to a student's journey through Perry's developmental scheme. In the scheme, the individual begins, at age 18 or so, as a non-critical member of a community, believing in the absolute truth of the tenets of this community. Through her college career, the individual is then confronted with conflicting systems of thought, which should lead her to take a critical stance toward her original community--a stance very similar to Fish's position towards formalist criticism in the early essays of the collection. Eventually, the individual in Perry's scheme must overcome her confusion over conflicting claims to truth by re-evaluating her own position, followed by a commitment to the conventions of a community that suits her individual goals and interests. Such a re-positioning of oneself in regard to one's original community is parallel to Fish's re-positioning himself in regard to formalist criticism. While Perry does not specifically allow for the creation of a new community of interpretation, like Fish does in his development, I do not think this difference is significant. Perry's attitude here seems to be that there is nothing new under the sun, so that the newly chosen set of conventions is bound to coincide with those of some already existing group, whereas Fish presumably would like to think that he can be original. In fact, as we shall see in the next section, Fish's position, though new in the world of literary criticism, is not new in the larger community of academic thought, but belongs to the school of thought Bruffee calls social constructionism.

We can describe the sequence of the argument in the essay collection as a reflection of how Fish, as an individual, responds to the conventions of the interpretive community of which he is a part, namely literary critics. Fish implies, through the form his analysis has taken, that since the critical system he grew up with was formalist criticism, he had to respond to its conventions in his own attempts at critical theory, and could also be expected to, subconsciously, retain some of those conventions in that process. The quest for objectivity and the absolute truth or final meaning are major tenets of formalist criticism. Hence his fear of subjectivity and relativism stemmed from his adherence, initially unacknowledged, to the conventions of his community. As a result, a remnant of formalist thinking can be found in his initial description of "understanding" as a two step process. In this position, he attempts to adhere to the then conventional notion that there must be a place for an objective, common understanding of a text.

Fish's account illustrates the difficulty of making the transitions from phase to phase in Perry's scheme. These transitions, which involve breaking old Commitments and making new ones, are difficult both emotionally and intellectually, because it is difficult to be critical of values that have been accepted uncritically (in Perry's terms, Dualistically) through adoption of the social forms of the social environment of one's youth. A break with those conventions involves a cognitive expansion of horizons, which I characterized earlier as a greater awareness of norms and values of other communities, and a subsequent greater self-awareness. Achieving awareness and self-awareness have their social and emotional price; loyalties change, and securities are disrupted. The transitions Fish experiences can be characterized as a process of cognitive distancing. Such distancing is necessary to solve, or attempt to solve, the friction or cognitive dissonance caused by value conflicts between different communities. Perry's model can then be said to outline the stages of the distancing response caused by cognitive dissonance.

What I have just done is apply Perry's model of development as a metaphor to Fish's struggle to come to terms with the cognitive and ethical differences in perspective of various critical schools of thought. Perry's model can be more effective in understanding cognitive and ethical growth of adults if we perceive the model metaphorically. Perry's model as he presents it is extremely linear, because he presupposes membership in one community, which is then disrupted and changed. In the first place, it seems more realistic to envision a person as a member of many communities: family, schools, jobs, clubs, religion, and so on. The values of such communities will, to some extent, overlap, but there will also be differences in priorities, as a result of different interests and goals. Thus Perry's Dualism cannot, realistically, be as monolithic as he suggests. Moreover, if one is a member of more than one community, then conflicts of interest should occur more frequently than just in college, as Perry suggests. His stage of Relativism consists of the digestion of the confrontation with conflicting value systems, which, as Fish has noted, is in fact a conflict of interests. Surely students have been confronted with conflicts of interests before they come to college. Thus, with the help of Fish's theories as well as his performance as a thinker in *Is There a Text*, we are now able to see Perry's model as an apt metaphor for the admittedly dramatic conflict of interest the academic world presents to students. This metaphor applies, however, every time one's vested beliefs are under siege.

Treating Perry's model as a metaphor does not eliminate its value as a model for higher level cognitive and ethical development, nor does it undermine its value for understanding college student development. The transformations from stage to stage involve cognitive growth, because they can only occur as a result of adaptation to larger cognitive schemata. Fish as a formalist critic had a cognitive model that represented a certain world view. Through confrontation with reader response criticism, his cognitive and ethical horizons were broadened; he had to learn a whole new cognitive schema, reader response criticism, and create a new category in which both systems of thought could be incorporated. Thus larger abstract schemata, and a broader world view, were the result of his transition to Relativism. The friction caused by the necessity to incorporate new schemata requires cognitive distancing to create encompassing new categories. Cognitive distancing is, then, a developmental feature characteristic of the

Relativist phase. This feature belongs in the higher regions of cognitive development by virtue of its complexity. In this stage, a person has long transcended the simple cognitive categories that Aristotle's topics represent, and instead relies on categories that consist of highly complex combinations of such topical categories. An even higher level of cognitive and ethical development is reached in the stage of Commitment because this transition involves not only awareness and incorporation of new systems of thought and world views, but also the determination of one's own position amidst such abstract complexes. As we shall see more extensively in the next chapter, the determination of one's own position involves the conscious manipulation of complex abstractions made possible by cognitive distancing. This conscious manipulation is characteristic of a very high level of cognitive development.

Thus Perry's model is an apt metaphor for adult growth because it describes how individuals cope when confronting with large new complexes of thought. His model presupposes a fairly solid grounding in one system of thought in the Dualist stage. Such a grounding involves control over fairly complex abstractions. Consequently the model is most useful in addressing the growth processes of subjects who are already able to control such complex abstractions: young adults. Hence Perry's model is useful in addressing the growth processes of college students. Moreover, in general it is fair to suppose that for most freshmen a college environment represents the first confrontation with cognitive and ethical conventions that are drastically different from those they knew before college. College represents a dramatic friction in value systems for different students in different ways. For example, we find ourselves in an era where many colleges and universities have an open admissions policy, and where a large portion of students are first generation college students. For such students the transition to academic ways of thinking and being often constitute a culture shock. Non-traditional students, such as students that return to college after working for several years, or after a divorce, or after having served in the army, also form a considerable portion of the student population. Generally, such students have been outside an educational context for several years, and their re-entry into academia also involves a culture shock, of a somewhat different nature, but potentially just as drastic as those of first generation students. For traditional students, 18 year old middle- to upper-middle class, the transition from high school to college generally involves a repositioning toward Authority in Perry's Dualistic sense; there are no parents around, and teachers are much less concerned with disciplining than highschool teachers. Thrown back on their own devices, such students are likely to be open to listening to and experimenting with new value systems and world views. For all these types of students, survival in college will depend to a large extent on their ability to adapt to the differences in world view of the academic community and those communities they came from.

Perry's model seems to be based on examination of traditional students, because with them his descriptions apply most literally. However, if we perceive his model as a metaphor for adult growth, then it applies also to other types of students, and to adults in general. We can perhaps better understand Perry's model as metaphor if we compare it to a traditional metaphor for adult growth, the story of the Fall from Eden, in particular as it has been used by R.W.B. Lewis, as a recurring myth in American literature. Lewis essentially describes the story of the fall as an initiation story, where an Innocent (the Adam figure) is confronted with a new social institution with an Evil value system. The confrontation with Evil leads the Innocent to Fall, from the Eden of Innocence into Experience. Perry's stages follow the same line of development. The Dualist thinker is "innocent" of other systems of belief, and has Faith in Authority. The Relativist has been confronted with evil (with conflicting systems of thought, from which Doubt follows). The Committed thinker is the Innocent transformed by Experience. His recommitment can then be seen as a maturity that suggests a Fortunate Fall--the interpretation of the biblical story where the Fall is seen as a positive experience for man, because it entails independence and freedom of choice, and hence a chance to mature. In this study, this parallel must remain sketchy. What I wish to indicate is that, like the story of the Fall as an initiation story, Perry's model can repeatedly serve as a metaphor for adult growth. Every encounter with a new system of thought, of values and conventions, can potentially, result in a new Fall from innocence, or a new Perrian phase of Relativity. I have already indicated that the Perry model best explains adult growth because it presupposes a certain level of cognitive complexity. Seeing his model as a metaphor that applies to college students, but also to adult growth in general, emphasizes a connection with the Vygotskian idea that learning never stops. As long as there are new encounters with new social institutions, cognitive and ethical growth are possible, and hence a journey through Perry's model is possible. The model/metaphor applies particularly to college students because their entry in college involves an initiation into the academic world. Thus, Perry's model is particularly useful to teachers, who need to understand the process of adaptation freshmen face in order to be able to help students grow.

For college level composition teachers, the immediate implications of Fish's theory of interpretation and Perry's model for cognitive and ethical growth are that they must approach freshman writing courses as an initiation into the conventions of the academic community. Their job is to present academia as a community of readers with its own textual conventions, which freshmen, as novice academicians, must learn. Such an approach involves a rhetorical analysis by both teacher and students of what these academic conventions are. While teachers already know these conventions at least implicitly if not explicitly, students are generally unaware of the new expectations, which explains in part the difficulty so many students have in college writing, particularly with coming to terms with the notion of an academic audience in formal essays. Not knowing academic textual conventions inevitably results in poor audience awareness in formal papers, and hence in poorly written formal papers. (This is not to suggest that all freshman writing problems can be solved by attention to audience, but to suggest that such attention can be a helpful strategy in addressing some of these problems.) In future chapters, I will discuss more extensively how academic conventions shape formal writing. I will also show that this initiation-into-academia approach is an ideal vehicle for teaching writing across the curriculum because it allows teachers and students to approach the writing typical of a particular discipline as determined by its own field-specific conventions. Thus individual academic disciplines can be presented as subcommunities of the academic community, with their own conventions and norms for the production of texts.

Another implication of Fish's theory is that argument should play an important role in the teaching of academic writing. Currently, the trend in composition practice is to emphasize expository writing, where the primary purpose is to convey information. This purpose presupposes an agreement on what information is relevant. Fish, with his notion of interpretive communities, suggests that such agreement is not a given. Hence a form of argumentation is called for that involves an examination of values and interests of interpretive communities, so that agreement or disagreement on the relevance of information can be addressed. Fish has, then, also provided composition teachers with a way of addressing the transition from expository writing to argumentative writing. Taking Fish's theories in conjunction with Perry's model, we can now say that expository writing is appropriate in the context of one community. That is, if the writer and her audience share the same assumptions and conventions, exposition is an appropriate mode of communication.

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However, if the writer and her audience share only a limited number of assumptions, then argument and persuasion are a more appropriate mode of communication, because these forms of interaction involve examination and establishment of shared assumptions.

Fish provides composition teachers with a way of addressing the transition from narrative and expressive papers, which address their individual experience, to formal papers, which must address conventions of formal, in his case, academic, readers. The transition from informal to formal audience can be expressed in terms of distance between the writer and her audience. As Walker Gibson illustrates in Persona, increasing formality of tone in a text can be expressed as increasing distance between writer and audience (62-72). Increasing such distance can then serve to examine a perspective more critically, leading to greater awareness and self-awareness, and hence to development according to Perry's scheme. Narrative and expressive writing can then be used by the writer to address herself, or to address an audience with great familiarity, in order to explore her own thinking, in Piaget's terms, egocentrically, without having to be bothered much by audience expectations. Thus narrative and expressive writing can be used in Perry's developmental scheme at the lower developmental levels, in order to explore one's Dualist perspective. While narrative and expressive writing are not necessarily egocentric, or reflective of relatively low cognitive development, these forms can serve such a function usefully in a developmentally organized curriculum.

Writing courses can be particularly effective in stimulating development in Perry's scheme, because writing can become more effective if the writer can consciously control the distance between herself and her audience. Such distancing, we already noted, is prerequisite to the kind of critical awareness and self-awareness a student needs to successfully respond to the cognitive friction caused by her confrontation with conflicting value systems, symbolized by Perry's stages of Relativism and Commitment. Persuasive writing, in particular, requires a conscious control of the distance between audience and writer, because the writer needs to be aware of the values and assumptions she and her audience share. Persuasive writing is the most effective tool to aid students with achieving the kind of distancing that will promote their development along the lines of Perry's model. Doing persuasion, using language as action, as the speech act theorists suggest, helps the student become aware of the different norms and values of different communities, and thus helps her achieve the distance and awareness she needs for achieving Perry's Relativism and Commitment. The conflicts of interest of different interpretive communities can, in fact, be said to form the crux of creative composing, exactly because such conflicts force distancing and the creation of new cognitive categories.

A model for argumentation that addresses shared and unshared assumptions will be developed in Chapter Three, based on Stephen Toulmin's argumentative model. The argumentative model in Chapter Three is intended to aid teachers in re-focussing on argumentation as a central mode of communication in the academic community.

V. BARTHES AND BRUFFEE: CULTURAL CODES AND SOCIAL CONSTRUCTIONISM

Fish is not the only literary critic who argues that meaning is located in social institutions, although his position is the most explicit and the most similar to those of the cognitive psychologists and William Perry. Fish parallels the psychologists in his perception that meaning results from cognitive categories learned through participation in social institutions. Moreover, he parallels Perry in his perception of social institutions as substructures within the framework of a culture, as well as in his perception of the importance of a socially-constrained relativist perspective as a result of locating meaning in social structures. Finally, he takes Perry's assumptions a step further by insisting that argument and persuasion must be the central modes of communication in a relativist perspective. While Fish is thus exceptionally useful for the perspective on learning I want to develop as a basis for a writing pedagogy, some structuralist critics also share the conviction that social conventions play a central role in knowing. Roland Barthes, in particular, emphasizes interpretation as a function of a communal understanding of language.

Barthes describes the role of conventional categories of knowing in his discussion of reading as play in S/Z. In S/Z, Barthes discusses his reading of the text Sarrasine by Honore de Balzac in terms of five conventional categories of understanding. The categories are a collection of strategies of interpretation that can be applied to a text by readers as they see fit. Barthes describes the use of the codes for those who understand its formal principles, much like Fish describes the application of poetic principles by students who have learned such principles within the social institution of English literature. That is, the principles of a code exist as a conventional body of knowledge, which can then be applied to a text. Thus Barthes' codes follow no particular hierarchical pattern. The categories are the hermeneutic code, the semantic code, the symbolic code, the proairetic code or code of action, and the referential or cultural code. They can be defined as follows:

> The *hermeneutic code (HER)* is the system of questions raised and subsequently answered withing the text. Unknown entities are first introduced, and later explained in the text. The reader is able to comprehend the suspension of question and answer because she understands and expects this kind of delay; it is part of the conventional structure of reading.
>
> The *semantic code (SEM)* also derives from social conventions. The semantic system, consisting of the relationships of denotations and connotations of words is, of course, socially determined. This code allows for the distillation of layers of meaning from a text.
>
> The *symbolic code (SYM)* is equally clearly a system of conventions. Barthes sees as symbolic particularly those units of meaning that refer to our knowledge of people in the psychoanalytic sense: references to sexuality, death, life, fears, and other themes that evoke systems of feelings.
>
> The *proairetic code (ACT)* consists of the sequence of actions, from the perspective of the writer as well as from the perspective of the reader. From the writer's perspective, this code refers, in conventional terms, to the plot structure, while from the reader's perspective it refers to the sequence of actions the reader goes through while processing the various systems of interpretation.
>
> The *cultural or referential code (REF)* consists of "references to a science or body of knowledge. . .[or] type of knowledge (physical, physiological, medical, phychology, literary, historical, etc.)" (Barthes, *S/Z* 20). This code, then, refers to culturally defined bodies of knowledge, such as the academic disciplines and ethical codes (the explication of the categories in the above paragraphs derives in large part from lectures by Joseph J. Comprone, Fall semester 1983, University of Louisville).

Although Barthes developed his theory from a different perspective than Fish, he does have very similar intentions. His codes are intended to allow the reader to make meaning based on a culturally shared understanding of written language. _S/Z_ largely consists of an analysis of _Sarrassine_ according to the five codes. Barthes divided the text in numbered units, and discusses each unit in terms of the codes he deems applicable. Since all five codes occur within the first three units of the text, it might be useful to show how Barthes goes about making meaning through application of his strategies. The first three units of text are the following:

> (1) _SARRASINE_
>
> (2) I was deep in one of those daydreams (3) which overtake even the shallowest of men, in the midst of the most tumultuous parties (_S/Z_ 221).

Barthes' interpretation of these units is as follows:

> (1) _SARRASINE_
> * The title raises a question: _What is Sarrasine?_ A noun? A name? A thing? A man? A woman? This question will not be answered until much later, by the biography of the sculptor named Sarrasine. Let us designate as _hermeneutic code_ (HER) all the units whose function it is to articulate in various ways a question, its response, and the variety of chance events which can either formulate the question or delay its answer; or even, constitute an enigma and lead to its solution. Thus the title _Sarrasine_ initiates the first step in a sequence which will not be completed until No. 153. . . .
>
> ** The word _Sarrasine_ has an additional connotation, that of femininity, which will be obvious to any French-speaking person, since that language automatically takes the final "e" as a specifically feminine linguistic property, particularly in the case of a proper name whose masculine form _(Sarrazin)_ exists in French onomastics. Femininity (connoted) is a signifier which will occur in several places in the text; it is a shifting element which can

> combine with other similar elements to create characters, ambiances, shapes and symbols. . . . We shall call this element a signifier . . . or a seme (semantically, the seme is the unit of the signifier) and we shall indicate these units by the abbreviation SEM. . . .
>
> (2) I was deep in one of those daydreams
> * There will be nothing wayward about the daydream introduced here: it will be solidly constructed along the most familiar rhetorical lines, in a series of antitheses: garden and salon, life and death, cold and heat, outside and interior. The lexia thus lays the groundwork, in introductory form, for a vast symbolic structure . . . Thus, on the symbolic level, an immense province appears, the province of the antithesis, of which this forms the first unit . . . We shall mark all the units in this symbolic area with the letters SYM. . . .
> ** The state of absorption formulated here (I was deep in. . . .) already implies . . . some event which will bring it to an end (when I was roused by a conversation . . . No. 14). Such sequences imply a logic in human behavior . . . This code of actions will be abbreviated ACT. . . .
>
> (3) which overtake even the shallowest of men, in the midst of the most tumultuous parties.
> * The fact "there is a party" (given here obliquely), soon to be followed by further data (a private house in the Faubourg Saint-Honore), forms a pertinent signifier; the wealth of the Lanty family (SEM)
> ** The phrase is a conversation of what might easily be a real proverb: "Tumultuous parties: deep daydreams." The statement is made in a collective and anonymous voice originating in the traditional human experience. Thus the unit has been formed by a gnomic code, and this code is one of the numerous codes of knowledge or wisdom to which the text continually refers; we shall call them in a very general way cultural codes (even though, of course, all codes are cultural), or rather, since they afford the discourse a basis in scientific or moral authority, we shall call them reference codes (REF) (*S/Z* 17-18).

The division of the text is as Barthes sees fit; other divisions, and other applications of the codes, are possible. Barthes is careful to present his analysis as *a* reading of *Sarrasine*. He does not analyze every single word in the text. For example, no attention is paid to the possible relationship of the words "overtake" and "tumultuous" in unit

3. These words can be seen as part of a symbolic code (SYM), refering to a sense of being overwhelmed, which may be contrasted later in the story, for example, with references to a sense of control. Or this newly identified symbolic code may be used to characterize one of the protagonists; or it may indicate a dominating theme in the story. Barthes presumably characterizes his method of interpretation as play because there are no fixed rules about when to apply these codes. As long as the structuration of the codes results in a coherent interpretation, Barthes is, presumably, satisfied.

Thus Barthes, like Fish, locates meaning in conventional categories that can, playfully, be applied to the interpretation of text. Meaning is not in the text but in what the reader does with conventional categories to a text. Like Fish, Barthes does not intend to posit a purely subjectivist perspective on understanding; rather, the individual interpretation derives from social conventions, which are applied playfully rather than according to a fixed pattern. Implied, then, is a relationship of individual interpretation to social conventions very similar to Fish's relationship of the individual to interpretive community; the individual proceeds from social categories of knowing, but performs her own manipulations with those categories.

The five conventional categories of knowing, says Barthes, are not "paradigm[s] that must be reconstituted." He is "concerned not to manifest a structure but to *produce a structuration*" (20; italics mine). Thus these structural codes, these categories of understanding, allow the reader to *make* a meaning. Barthes sees such readings as play. In

The Pleasure of the Text, he emphasizes how reading is a playful application of cultural codes to a text. To Barthes, reading and rereading thus produce endless levels of meaning, so that reading is a playful structuring of meaning rather than a scientific determination of the Truth of the text (an attitude, like Fish indicates, prevalent among formalist critics). Barthes believes in the "plurality of the text", i.e., in the endless potential for creation of meaning. Like Fish, Barthes envisions the reader as an active creator of meaning. Meaning is not based on radically subjective interpretations, but on the application of codes that are part of the conventions of the social institution to which the reader belongs.

Barthes, like Fish, is reacting against the highly restrictive ways of reading dictated by formalist strategies. He, like Fish, wants to move away from the formalist emphasis on the objective control of the text over meaning, and allow the reader to play an active role in the creation of meaning. However, Fish is more careful than Barthes is about dissolving the conflict between the polarities of objective control (by the text) and subjective control (by the reader) over the meaning of the text. Barthes, in positing that the reader has a choice in whether and how to apply his codes, unintentionally suggests that the text still dictates the meaning, and that the reader merely highlights what is already there. Thus Barthes involuntarily maintains the conflict between reader and text. By not addressing the conflict of objectivity/subjectivity, Barthes unintentionally remains vague about whether meaning is located in the text, to be discovered by active readers, or in the culturally defined codes, to be applied by readers.

Also, unlike Fish, Barthes does not discuss the nature or scope of the social institutions that originate his codes. He merely states that the codes are cultural, thus remaining general (18). Furthermore, his understanding of how cultural codes work is different from Fish's. To Fish, the formal codes a reader brings to a text are fixed strategies drawn from critical schools of thought, so that their application results in a more or less predictable interpretation of a text. Barthes's cultural codes are not related to critical schools of thought; they are more general ways of understanding language dictated by how the culture uses language. Thus Barthes' categories are less specialized than Fish's, and can be said to be the parallel in written language to Vygotsky's analysis of how speech creates categories of thought. Barthes' description of cultural codes as widely understood ways of using language allows him to perceive reading as play, because these ways are less narrowly defined than critical strategies of interpretation.

Barthes' method of applying structures through play allows for a greater flexibility in the creation of meaning. The application of structures can be more idiosyncratic, and can range over larger segments of knowing, than Fish's understanding of the applications of the interpretive strategies of different critical methodologies. For example, a plumber may recognize, in reading a poem, a parallel between the sounds of the poem and the sounds of, say, a clogged sink, which helps the plumber understand the poem as addressing the problem of stagnation. While Fish's perspective on cultural categories explains why the plumber would listen to sounds, it does not explain why he recognizes the pattern as similar to a clogged sink, instead of, say, hearing the chugging of a small boat. Barthes' categories would explain the plumber's identification more easily, because his categories are broader. His cultural category (REF), for example, represents all bodies of knowledge, including, presumably, plumbing. The multiple possibilities of application of Barthes' codes is in part due to what the text, the particular reader, and the codes have in common. In the hypothetical plumber example, the text, the codes, and the reader have plumbing in common, which may lead to a new interpretation of the text: stagnation as a theme. Were the reader a fisherman, who recognized in the sounds of the text the chugging of his little boat on calm water, this recognition would lead to a rather different interpretation, in principle no less valid than the plumber's.

The perspectives of Fish and Barthes on the source of meaning is an application of social constructionist thought to literary criticism. Kenneth Bruffee, in his bibliographical essay on social constructionist thought across the disciplines, explains that social constructionism is essentially the effort to portray knowledge as growing out of communal agreement, rather than as something already out in the world to be discovered by humans. This perspective on knowledge is, despite its fairly long tradition, not promoted in a unified way. He explains: "Although social construction has a venerable history in twentieth-century thought and although writers in a number of fields are engaged in an effort to develop the disciplinary implications of a nonfoundational social constructionist understanding of knowledge, that history remains largely unacknowledged and the effort fragmented" (773). In his essay, he tries to bring thinkers of this school closer together.

He contrasts social constructionist thought to "traditional--mainly Cartesian--epistemology," which he dates back to at least the seventeenth-century (776). He describes the traditional mode of thought as a system of binary oppositions, the most important of which is the polarity of objectivity and subjectivity. Bruffee contrasts the two perspectives on knowledge on four points.

He calls the traditional epistemology "cognitive," by which he means social cognition, not what most cognitive psychologists mean by the term. I have used that term developmentally, so that it belongs to the opposite category of social constructionism. His use of the term "cognition" is thus, for my purposes, confusing. For this reason, I will continue to refer to the Cartesian-inspired epistemology as the "traditional" epistomology.

First, he says that the traditional epistemology assumes that "there must be a universal foundation" underlying knowledge. In contrast, the social constructionist are nonfoundational; they assume the absence of a universal foundation. Instead, they assume a "consensus arrived at for the time being by a community of knowledgeable peers. Concepts, ideas, theories, the world, reality, and facts are all language constructs generated by knowledge communities and used by them to maintain community coherence" (777). In the social constructionist view, the community determines what counts as truth. Truth does not exist somewhere to be discovered, but must be constructed.

A second traditional assumption is that "'cognitive processes,' 'conceptual frameworks,' 'intellectual development,' 'higher order reasoning,' and so on, refer to universal, objectifiable, and perhaps even measurable entities." Social constructionists, on the other hand, assume "that thinking is an internalized version of conversation," and is hence "a way of talking about talking." Terms like "cognitive processes" are social constructs. A third traditional assumption is "that the individual self is the matrix of all thought: 'I think, therefore I am.'" Social constructionists, by contrast, locate the matrix of thought in "some community of knowledgeable peers" and its language. Bruffee notes that some scholars go so far as to assume that "the individual self is a construct largely community generated and community maintained" (777). The fourth contrast in assumptions Bruffee discusses is that in the traditional epistomology, "there is something inherently problematical about knowledge" because "anything we might try to know is by its nature inaccessible." The gap between self and knowledge is due to the binary system of thought: the subjective and the objective cannot meet. Social constructionism, on the other hand, denies that problems are inherent in the nature of knowledge because from their perspective knowledge is not somewhere out there to be found, but is constructed by the community. Thus the gap between self and knowledge is dissolved (777-778).

All the major scholars I have thus far discussed in this study share the assumptions of the social constructionist epistomology. Vygotsky, Luria, Bruner, Fish, Barthes, and Perry all adhere to the four assumptions Bruffee describes as essential to constructionist thought. Bruffee, in his discussion of some of the major social constructionist scholars in various disciplines, mentions both Vygotsky and Fish. In fact, his discussion of the second assumption, where he describes the constructionist description of thinking as internalized conversation, is directly drawn from Vygotsky's theories. However, Vygotsky's depiction of thinking and language is more formal than Bruffee suggests. That is, Vygotsky does believe that internalized conversation is the basis of thought, but he also posits that such conversations lead to categories of understanding which derive from the categories language itself suggests (such as the table becoming a functional object, defined by its use). Language, by its very nature, creates meaning because it categorizes experience. If we rephrase Bruffee's second essential assumption, that thinking is internalized conversation, to include the notion that categories of meaning are derived from social interaction, then we are being more accurate in terms of Vygotsky's theories, without dramatically changing the substance of Bruffee's discussion. By rephrasing the second assumption in this way, the connections between assumptions one, two, and three are more clearly visible.

To summarize, the four assumptions Bruffee cites as essential to constructionist thought are:

(1) that knowledge and truth are constructed by a community of knowledgeable peers,
(2) that thinking is internalized conversation, now rephrased to state that thinking occurs in categories of meaning derived from social interaction,
(3) that the community is the origin of thought,
(4) that there is no gap between self and knowledge.

Vygotsky, Bruner and Luria all believe that thinking is the internalization of social conventions, and that hence the community, which they respectively define as socio-historical (Vygotsky and Luria) and as cultural (Bruner), is the origin of thought. Their adherence to assumptions 2 and 3 implies their adherence to assumption 1, that the community is the origin of thought. Barthes adheres to the first, second, and third assumption when he says that the meaning of the text is constructed by application of conventional categories or codes. Fish adheres to assumptions 1, 2, and 3 when he says that the interpretive community is the authority on meaning, thus defining "social" more narrowly than the psychologists. He also defines the relationship of the self to the community (part of assumption 3) as a fluent one, where the individual is a product of the community but has, as it were, free will, so that she can critically evaluate the tenets of a given community and join or create other communities. In addition, Fish addresses assumption 4 in his discussion of the dissolution of the binary opposition of subjective and objective, which he replaces with a socially-constrained relativity. Finally, Barthes' notion of interpretation as play expresses assumptions 2 and 3, because his interpretive categories are derived from cultural ways of knowing.

This study clearly accepts the assumptions of the social constructionist epistemology. We can add to Bruffee's description of essential assumptions Fish's description of the relationship of self and community (in the third asumption), as well as Fish's notion of socially restrained relativity (in the fourth assumption). It then becomes clear that Perry's developmental model fits the social constructionist epistemology outlined so far. Perry assumes that interpretive communities, in particular the academic community, affects the categories of thought of the students that enter this community. The line of development he presents in his model must, then, be seen as journey of the novice student into the land of conventions and assumptions of the academic community. His model, far from being absolute, reflects the values, goals, interests and norms of the academic community, as Perry perceives them. Perry's assumption that this journey affects both the intellectual and ethical categories of meaning is justified by the social constructionist epistemology. In the same sense, the parallel I drew between Perry's model and the cultural history of the West is no more than _a_ category of interpretation, a way of understanding why Perry chose this particular sequence of stages. This parallel seems applicable particularly because Perry's model seems to reflect the Western cultural history _as it is understood by the community of academics,_ or, to be even more precise, by the community of those academics that assume the perspective of social constructionist thought. Perry's model is a useful heuristic for a writing pedagogy at the college level, precisely because it reflects the goals and assumptions of the academic community. It is, in fact, Barthes concept of play that has allowed me to apply Perry's model in the various ways I have thus far applied it: as a model for the ethical and cognitive development of college students; as a model for Fish's coming to terms with his position on the determination of meaning of a text, and on the role of critics; as an image for an initiation experience; as a model for adult growth; and as a model for the ideological stages of Western cultural development. I have used Perry's model as a cognitive category, or a cultural code, which helps me understand experience in a wide range of areas.

The social constructionist perspective Perry's model implicitly assumes makes the model particularly useful for teaching writing because language skills are so central to its essential assumptions. As Bruffee points out, since social constructionism equates knowledge with language and other symbol systems, this epistomology "dovetails with our professional self-interest," especially for English scholars in language, literature, and composition studies (778). The traditional epistemology, he argues, "places language on the margin of knowledge as a mere medium or conduit--a set of 'skills' by which 'ideas' are 'communicated' or 'transmitted' from one individual mind to another" (778). However, the social constructionist places language right at the center of knowledge, which would, of course, place language skills at the center of education. Indeed, this perspective justifies the current trend towards writing across the curriculum at the college level, and in such a way that writing in other disciplines is not merely a set of skills necessary to transmit the otherwise unrelated body of knowledge, but in a way that language is central to the knowledge conveyed, because it embodies the categories of understanding of the pertaining disciplines.

Thus Perry's model, perceived as a product of social constructionist thought, can serve as a useful heuristic for a writing pedagogy both in writing classes and in writing across the curriculum classes. His model suggests that such a pedagogy should focus on language as a way of structuring reality, as a way of making meaning by interpretive communities. At the college level, writing courses can then focus on how the academic community structures meaning, and writing across the curriculum courses can focus on how specific academic disciplines structure meaning. For example, in writing courses, teachers can point out that in formal writing it is redundant to use expressions like "I think," "I feel," or "I believe" to indicate a personal opinion or thought, because if an opinion or thought does not originate with the writer, documentation will indicate that. Academics have developed the convention of documentation to clarify who thought what when and where. Similarly, in writing across the curriculum courses, teachers can point out differences in subject matter, research methods, and forms of presentation of the various disciplines by discussing such different research paradigms and presentational strategies as resulting from the underlying assumptions of a particular discipline. A simple example of such a presentation would be the following explanation for the use of the MLA documentation system in English versus the APA system in the social sciences. The MLA in-text documentation uses page numbers, because English teachers are interested in specific textual references. Such specific references are the data in their critical analyses. The APA in-text documentation uses the year of publication of the study in question because social scientists are not so much interested in the specific way of phrasing of a piece of research as they are interested in when the research was done. Dates are important because in the social sciences research builds on previous research. In some areas, the more up to date the research is, the more relevant it is to the social scientist. In English, such concern with time is less dominant. An interpretation of Shakespeare by a scholar in the eightteenth century can be as valid today as it was then. Although also in English some interpretations have become obsolete, time plays a lesser role than in the social and natural sciences. Thus the form of the documentation method can be explained by reference to the interests and values of the particular disciplinary community. That is, the language expresses the concerns of the community. Through this kind of connecting of form and context, students can learn the ways of thinking that underlie particular forms of presentation, giving them an understanding of the habits of thought of the field instead of a superficial knowledge of typical forms of presentation.

Thus the idea that language structures reality plays a role in how the teacher presents writing typical of particular communities. In addition, the same idea also structures classroom strategies. If language shapes the way an individual thinks, as the psychologists I discussed tell us, and if greater awareness and self-awareness result from exposure to other systems of thought, as Perry and the psychologists I discussed tell us, and if the acceptablity of ideas are communally determined, as the literary critics I discussed tell us, then it is important that individuals exchange ideas in order to test their own ideas, and in order to learn new ways of thinking. As Bruner's study of learning among the Kpelle already suggested, collaborative learning becomes an important learning strategy in the classroom in a pedagogy based on Perry's model. A third implication from the use of Perry's model is that argument should be presented as an important mode of communication because, if reality is communally constructed, then mutual understanding can be reached only by persuasion of the relevance of the interests and values that dictate a particular interpretation of reality. Reference to facts no longer suffices, because communities, by virtue of differing values and interests, do not necessarily agree on the relevance of particular facts. Finally, Perry's model suggests that the student's learning process, consisting of a gradually developing control over abstract thought and a gradual acceptance of the world view dominant in academia, occurs in stages that can be encouraged but not forced. Thus a writing pedagogy based on Perry's model must combine 1) a focus on language as reflecting community constructed interpretations of reality, 2) an emphasis on collaborative learning techniques, 3) a focus on argument as an important mode of communication, and 4) an emphasis on a sequencing of assignments that facilitates the cognitive and ethical development of students. In the next chapter, I will develop a writing pedagogy that intends to fulfill these criteria.

CHAPTER THREE

A PEDAGOGY FOR TEACHING PERSUASIVE WRITING

I. LEARNING, THINKING, AND ARGUMENT

In the previous chapters I have tried to establish the relationship between thinking, writing, and learning from a social constructionist perspective. I have shown that in accepting this perspective, we can say that language shapes thought, and that written language shapes abstract thinking. Also, learning can then be described as a process where social interaction functions as a necessary catalyst for biological potential. Imitation of social behavior, both tool use and language, leads to the formation of mental models or blueprints that can be described as categories of thought. These categories serve as a way of organizing, and hence understanding, past, present, and future experience. This process of imitation and internalization does not necessarily stop in adolescence. There is, in fact, no reason to assume the process ever needs to stop because one can always learn new models (cognitive categories) for understanding experience. Whether or not learning stops depends on the social interaction the individual experiences. If that interaction can present new models of understanding, learning will not stop. I do not wish, in this study, to make an argument that learning is a good thing in itself, and should thus continue thoughout one's life, although I am inclined to think so. Here, I merely want to point out some of the implications of the social constructionist perspective on learning for college composition classes. If, as the theorists I have discussed would have it, learning is a matter of absorbing and taking a stance regarding the cognitive models of a particular social community, then the task of college teachers is to provide college students with an introduction to the models of their particular community: academia. Writing teachers in particular have a responsibility to do so because of the role oral and written language play in the formation of cognitive categories. The structuring aspects of language make composition classes an ideal vehicle to convey the structures and conventions of the academic world.

Furthermore, from a professionally interested point of view, presenting the teaching of writing as the most effective way to introduce students to the conventions and habits of scholars and scientists will allow our discipline to gain respectability. The teaching of composition can move away from being restricted to instruction of a set of skills, such as control over grammar, spelling, and forms of presentation such as the memo, the lab report, the reseach paper, and instead present itself as a field that can help improve thinking and understanding. The social constructionist perspective allows the field of composition to present itself as having vital substance. I am thinking here of the accusations Socrates made to the Sophists, claiming that rhetoric was a craft, because it involved no more than the acquisition of a set of skills, like cooking, whereas a real science, like medicine, had a subject matter of its own (Socrates in "The Gorgias"). According to the social constructionist perspective I have presented, the subject matter of composition and rhetoric is the relationship of language and thinking. More than any aspect of language studies, rhetoric and composition concern the structuring aspects of language as related to thought structures.

That Socrates' accusations are still relevant to the field today is apparent from the emphasis of a prominent contemporary school of thought that presents writing as an art, where the teacher's role is to provide facilitating skills while the student waits for inspiration. Also in current attempts to teach writing across the curriculum do we find a tendency to emphasize teaching writing as the teaching of skills. When writing, in a writing across the curriculum context, is presented as a service discipline to other fields, our task as writing teachers is to teach students grammar, spelling, and the appropriate forms of the field: memos in business, lab reports in science. Such an approach reduces the field of writing to the status of craft, because the "real content" of writing courses with such an approach is the subject matter of the pertaining discipline. However, the social constructionist approach as described in this study allows composition specialists to present writing as ways of thinking. Thus a writing in the social sciences course would have as its subject the relationship between the ways of thinking of social scientists and the forms of presentation social scientists employ. With this approach, students do not only learn the conventional forms of presentation of a field, but also the ways of thinking that underlie such conventions. The subject of a writing across the curriculum class becomes, then, the conventions of the pertaining field in the larger sense of the word, including the habits of mind as well as the habits of written presentation. Furthermore, such an approach can serve as a further exploration of academic conventions, presenting social science methods as part and parcel of academic methods. This approach to teaching writing in the social sciences can, then, also serve to enhance general education, because in perceiving a field or a discipline as a sub-community of the academic community, the student can become more able to perform inter-disciplinary discourse.

What we need to examine as composition theorists is how exactly we can teach writing as an examination of habits of thought and habits of written presentation. In this chapter, I propose argumentative writing as the form most suited to this purpose. Stanley Fish pointed out that from the social constructionist perspective, argument is the dominant mode of communication in academia in his essay "Demonstration and Persuasion" (Fish 356-371). In this essay, he contrasted two world views, and paired each perspective with its own dominant mode of communication. He described the traditional world view, where Truth, in the absolute sense, is an entity existing outside of ourselves, which can be found. In this view, the task of scholars and scientists is to gather the facts, and to present them in support of the thesis these facts suggest. Much like Bacon suggested in the seventeenth century, the facts only need to be observed, and the truth, i.e., their connective pattern, will jump out at the observer (Bacon 328). Or, in a less naive presentation of scholarly activity, more prevalent in the twentieth century, we can say that a researcher forms a hypothesis, then goes out to observe the facts either through natural observation or by setting up a laboratory experiment, and if the facts discovered in such observation supported the hypothesis, the hypothesis is considered proven and accepted as Truth. In either description of scholarly activity, Truth could be discovered through observation. Thus demonstration and exposition are the dominant forms of communication in this world view.

Fish contrasted this world view with his own, in which interpretive communities do not agree on what facts are relevant. While such disagreement may at first sound absurd, it is in fact a common occurrence. In literary criticism, different schools disagree about whether one should interpret a text by examining parallels between the text and the author's life (biographical criticism), or by examining the internal structure of the words, sentences, and symbols within the text itself (new criticism), or by examining the readers' responses to text rather than the text itself (reader response criticism). In a non-academic example, traditionally one could distinguish Republicans as being primarily concerned with the success of the national economy, while the Democrats were more concerned with the fairness of the distribution of wealth. In both examples, groups of people (interpretive communities) disagree about which facts are important. Disagreement among interpretive communites, says Fish, stems from their respective interests, which dictate their norms and values. In a world view where communities disagree on which facts are important, demonstration is useless, because it relies on a shared understanding of the relevance of facts. Only by persuading a disagreeing community of the relevance of one's facts can one begin to overcome disagreement. Hence Fish posits persuasion as the dominant mode of communication. I have characterized Fish's world view as a socially-constrained relativism.

William Perry, whose developmental model is the basis of the pedagogy to be developed in this chapter, describes a world view similar to that of Fish. His stages of development consist of different world views, beginning with an absolutist view very similar to the one Fish described as traditional (Dualism in Perry's model), and moving toward a socially-constrained relativism like Fish describes when discussing interpretiKd communities (Committed Relativism in Perry's model). In order to help the student move through Perry's stages, writing teachers should, then, focus on the transition from expository and demonstrative prose to argumentative and persuasive prose, because this transition parallels the transitions from Dualism to Relativism to Commitment. Currently, composition practise focuses on exposition, while argument does not receive the focus necessary for student development. That is, in its emphasis on exposition, composition practice currently tends to present the Dualist world view rather than the social constructionist view of socially-restrained relativism. Since the latter view is becoming increasingly prevalent in the academic community, we are doing our students a disservice by not sufficiently focusing on presenting these thought models. Hence, both in order to keep up with academic conventions and in order to adhere to Perry's developmental model, which reflects the new academic conventions, composition teachers should focus more on the teaching of argument.

In the rest of this chapter, I will develop a model for argumentation derived from a combination of concepts and structures developed by several theorists. The basis of my argument model is Stephen Toulmin's argument model, which I will discuss in section II. His model is then enriched with several concepts derived from three rhetoricians: Wayne Booth, Chaim Perelman, and Kenneth Burke, discussed in sections III and IV. In section V of this chapter, I will present the writing pedagogy based on the argument model that results from the combination of these theorists. In section VI, I will discuss the applications of the pedagogy in writing across the curriculum courses. Then, in chapter 4, I will present models for teaching units based on the writing pedagogy developed in this chapter.

II. TOULMIN AND JURISPRUDENCE AS AMODEL FOR LOGIC

Traditionally, argumentation was taught in composition classes by teaching formal logic (See E. Corbett's Classical Composition for Modern Students). However, there are some serious drawbacks to this approach. First of all, the kinds of students that currently go to college seldom take basic philosophy classes, so that the burden of teaching the system of formal logic falls on the composition teacher. Trying to teach logic in the middle of a composition course is highly impractical. It is impossible to do a thorough job because logic is a difficult subject that requires much more time than the composition teacher has available. In general, logic is a completely alien subject to the students, so that attempts to address even its basic assumptions and rules often result in more confusion than clarity. Secondly, the application of formal logic to the kinds of arguments we expect in student essays is very limied. Philosopher Stephen Toulmin notes that there is a gap between the argument structure of interest to formal logicians and the way we draw conclusions in our daily lives. In an attempt to bridge this gap, he develops an argument structure of his own. His structure is much more useful to the composition teacher than that recognized by formal logicians.

Toulmin describes four different perspectives of logicians on their own field. What perspective is adopted depends on what discipline one takes as a model for logic: psychology, sociology, medicine, or mathematics. If psychology is taken as a model, logic is concerned with the laws of thought: "the logician is concerned with the study of proper, rational, normal thinking processes, with the working of the intellect in health, as it were, rather than disease" (Toulmin 3). If sociology is taken as a model, logic is the study of the laws that evolve as a result of "habits and practices developed in the course of social evolution" (Toulmin 3), so that sound reasoning is depicted as a result of social conventions. If medicine is taken as a model, logic is "not a science alone, but in addition an art. Its busiess is not to discover laws of thought, in any scientific sense of the term 'law', but rather laws or rules of argument, in the sense of tips for those who wish to argue soundly" (Toulmin 4). Thus, in this model, logic is a kind of technology. If mathematics is taken as a model, logic is an objective science, which occupies itself exclusively with "logical relations," that is, the relationships between claim and support, and does not pretend to say much about thinking (Toulmin 3-4). In the latter model, logic becomes a self-contained system of rules, much like pure mathematics--hence its name. Toulmin recognizes merits and defects in all models, but sets them aside to attempt the development of his own model, based on jurisprudence, because he believes this connection to allow for a bridge between logical theory and practice.

Toulmin presents his model throughout the text as contrastive with the mathematical model, explaining how his jurisprudence-based model overcomes the restrictions of the mathematical model. He begins his argument by showing that while in the mathematical model the validity of arguments is achieved through adherence to a formal structure, in practical situations justificatory arguments can be subdivided into many different types, which demand different rules for achieving acceptance. He introduces two technical terms, "field" and "force." An argument's "field" refers to the type of reasons necessary to support its claim. Thus a claim predicting rain tomorrow belongs to a different logical field from a claim about a traffic violation, because different types of reasons must be used to support it. Formal logic, by its very nature, does not make such distinctions, but in a model based on jurisprudence such distinctions parallel the different kinds of arguments lawyers recognize (civil versus criminal law; litigation versus divorce cases, etc.). Toulmin is concerned with what he calls "field-dependent" and "field-invariant" aspects of argumentation; what, if any, are the common elements among arguments of different fields (field-invariance), and what are aspects of argument unique to a specific logical type (field-dependence)? Through a discussion of common usage of the modal terms "necessarily," "possibly," "probably," etc., he determines that the "force," i.e., function, of different parts of arguments in any field is the same: the "force" of arguments is field-invariant. However, the criteria for evaluating arguments differ for each logical type; criteria are field-dependent (14-15, 30-35).

Toulmin illustrates these distinctions with the following examples. On a train, in a non-smoking compartment, a train guard tells a smoking passenger: "You can't smoke in this compartment, Sir." The conductor does not intend to suggest that it is a physical impossibility to smoke; obviously smoking is physically possible. Instead, he is referring to the rules and bylaws regulating train travel. These rules provide his claim with the necessary support. In a second example, a piece of metal falls from a truck onto the road. The driver, a pale, skinny fellow, is on his way to pick it up. A bystander says: "You can't lift that weight single-handed: hang on while I get help or some lifting-tackle." The driver laughs, thanks the bystander, and proceeds to lift the weight back onto the truck. In this case, the modal verb "can" in the bystander's claim refers to his skepticism regarding the driver's strength, which can be verified by the physical action of the driver in question. The speakers in each example, the guard and the bystander, are equally convinced of the truth of their claims. The force of their claims is the same, i.e., they are both assertions, and thus they are field-invariant. However, the criteria necessary to support their claims are quite different because the claims belong to different logical fields. Thus the grounds for justification of the claim are field-dependent (23-28).

Having made these distinctions, Toulmin then goes on to describe a common, field-invariant structure to arguments in different fields (97-105). He notes that Claims (conclusions in formal arguments) must be supported by Data, information about particular facts (comparable to some premises in the formal argument structure). Furthermore, there must be a way to get from the Data to the Claim. This function is performed by what Toulmin calls the Warrant. Warrants express "rules, principles, [or] inference-licenses" (Toulmin 98) instead of additional information. Thus the structure looks like this:

Data; Warrant; So, Conclusion.

To cite Toulmin's example (Toulmin 99ff):

> Harry was born in Bermuda (Data); and since a man born in Bermuda will be a British subject (Warrant); So, Harry is a British subject (Conclusion).

Some warrants, Toulmin notes, authorize us to qualify our conclusion with "necessarily," but others authorize more tentative conclusions, such as "probably" or "presumably." Hence the structure Toulmin is building here requires another element, the Qualifier. The doubts expressed by the qualifier can be countered in what Toulmin calls the Rebuttal. The common argument form now looks like this:

Data, since Warrant, so, Qualifier, Claim (unless Rebuttal).

For example:

> Harry was born in Bermuda (Data), Since a man born in Bermuda will generally be a British subject (Warrant), so, presumably (Qualifier), Harry is a British citizen (Claim), unless both his parents were aliens, or unless he has become a naturalized American, or . . . (Rebuttal).

Toulmin then adds one final element to the structure, a Backing for the Warrant. Since warrants are rules, principles or inference-licenses, our acceptance of warrants may be questioned. Toulmin notes that the Backing of a Warrant is field dependent. The Backing of the Warrant "A whale will be a mammal" is classification principles; the Backing of the Warrant "A Saudi Arabian will be a Muslim" is a generalization based on experience; and, in Toulmin's stock example, the Backing of the Warrant "A man born in Bermuda will generally be a British subject" is a law. An indication of the difference between Warrants and Backings is that Warrants can be expressed as hypotheticals, but the Backing "can be expressed in the form of categorical statements of fact" (105). Thus the final form of the model is as follows:

```
    Data--------------------------------------So, Qualifier, Claim
               |                                 |
             since                             unless
             Warrant                           Rebuttal
               |
             on account of
             Backing
```

Toulmin's stock example now looks like this:

```
Harry was born---------------------------So, presumably, Harry is a
in Bermuda      |                                |       British
                |                                |       subject
              since                            unless
           A man born in Bermuda          Both his parents were aliens/
           will generally be a            he has become a naturalized
           British citizen                American
                |
            on account of
        The following statutes
        and other legal provisions
```

Thus according to Toulmin's jurisprudence-based analysis of argument structure, an argument consists of field-invariant elements: Data, Warrant, Backing, Qualifier, Rebuttal, and Claim. Toulmin's analysis reveals a structure different from that usually recognized by formal logicians. In the first place, due to Toulmin's introduction of the Qualifier and the Rebuttal, his structure makes room for qualified conclusions, whereas for formal logicians a deductive argument is either valid or invalid; there is no in-between. For example, the argument

All men are mortal
Socrates is a man
Therefore, Socrates is mortal

is valid because it follows the structure

All A's are B's
X is an A
Therefore, X is a B

Toulmin, recognizing that in ordinary arguments we can rarely achieve the absolute certainty that formal deductive logic requires, recognized a structure, based on juris-prudence as a model, in which qualified certainty does not detract from the reasonableness of the argument.

Toulmin's structure also differs from that recognized by formal logicians in that it incorporates ways of verifying the premises on which the conclusion is based. Formal logicians have relatively little interest in the truth of their premises. Their main interest is usually in whether an argument is deducitvely valid. If its premises are all assumed to be true, its conclusion must be true too.

Hence Toulmin's argument structure is more useful to the composition teacher than that recognized by formal logicians because it allows her to provide a systematic approach to the kinds of practical arguments in which students are likely to become involved.

Toulmin's model has an additional advantage that makes it particularly useful in the context of a writing pedagogy based on a social constructionist perspective. In creating an argument model that allows for field-specific forms of backing of warrants, Toulmin allows for the possibility that a warrant is not a *universally* accepted hypothesis or rule, but one that is held by *a group of people.* His notion of warrants makes it possible to perceive his model in the context of the socially-constrained relativism we discussed in Chapters 1 and 2. That is, we can see warrants as the conventions of particular interpretive communities. They can reflect values and norms shared by an interpretive community, as well as agreements about how to argue: agreements about what facts are important, as well as agreements about what good reasons are, and what the best ways of presenting such reasons are. Toulmin provides us with a model that can address the grounds for disagreement among different interpretive communities and subcommunities: such grounds are clarified in the warrants and backings supporting the claims. For a composition teacher wishing to present conflicting positions on a given issue, in keeping with Perry's advice to present a plurality of perspectives, Toulmin's argument model provides a convenient vehicle to demonstrate that the differences between conflicting positions stems from conflicting norms, values, and interests. Toulmin's model provides a structure in which to express the cognitive friction that results from an encounter with conflicting value systems; each community's position can be expressed in terms of the relationship of its claims to its conventions, interests and values.

This relationship between Toulmin's concept of warrants, the social constructionist notion of communities, and the teaching of writing will be further explored in subsequent sections of this chapter.

III. BOOTH AND COMMUNAL AGREEMENT

In his Modern Dogma and the Rhetoric of Assent, Wayne Booth characterizes the main problem of argumentation in contemporary society as a pointless schism between two extremist factions, those with absolute faith in facts and reason, and those with absolute faith in feelings and subconscious motives. He proposes to dissolve the schism through what he calls a "rhetoric of assent," in which participants in a disagreement look for common grounds before they look for differences. In emphasizing communal agreement as a basis for accepting claims or conclusions, Booth's position displays striking similarities to Toulmin's theory of argument. In order to further clarify the connections between these two theories, and indicate potential implications for the teaching of writing, I would like to discuss Booth's position more carefully.

Booth begins by discussing the disputes between students and faculty in the late sixties and early seventies as a situation in which the two camps were unable, not only to come to an agreement, but even to understand each other's arguments. He ascribes this seemingly hopeless division to a condition he calls the "modern dogma," which he describes as a belief in "the helplessness of reason in dealing with any values" (15). He claims that "we have lost our faith in the very possibility of finding a rational path through any thicket that includes what we call value judgments" (7). He describes the extreme positions in the two camps of students versus faculty as "scientism" and "irrationalism," where the scientismic side believes truth is located in facts, objectivity, and reason, and the irrationalist side believes truth is located in values, people, and faith and commitment (17-18).

Booth points out that both sides agree on the impossibility of systematically analyzing or arguing issues concerning value judgments. According to the modern dogma, reasons in the area of probability are an inherent contradiction. Reason, and hence reasons, apply to objectivity and absolute certainty alone. Hence the best one can do with so-called "reasons" in areas that preclude absolute certainty is treat those "reasons" as rationalizations of underlying psychological and/or political motives of the person making a claim. For example, Booth describes how a freshman argued that God exists because man needs him. Man, the student reasoned, is afraid of judgment and self-determination; man is afraid to stand alone; man is weak. Consequently, he needs a superhuman authority figure. Thus, according to the freshman, the function of God is to fulfill this need (33). Booth calls this mode of argument, that consists of analyzing claims exclusively according to how such claims relate to the psychological state of the speaker, "motivism" (24). In the freshman's argument, the claim, presumably, is: "God exists." He explains this claim in terms of the psychological needs of the speaker: fear, weakness. What makes this analysis so offensive to Booth is that the student then felt that she had taken care of all other arguments. The student felt quite comfortable in ignoring, or rather, dismissing, centuries worth of argumentation about the issue based on the presumed finality of this entirely motivistic analysis.

Booth gives an example of political motivism in his description of student reactions to the firing of an assistant professor of human development and sociology at the University of Chicago. Marlene Dixon, the teacher in question, was "a self-professed radical who had recently changed her field from computer science to Marxist sociology." Students assumed she was fired because of her politics, because she was a woman, and/or because she was liked as a teacher. The administration claimed that the issue was her competence as a teacher and as a scholar, but the students did not believe this justification, because they did not trust this kind of reasoning. To them, the only valid mode of understanding human behavior was through their motivistic analysis. Again, motivism was presumed a more authoritative approach to disputes of value judgment than any other approach. Booth deplores this dependence on motivism, which, in its absolute reliance on irrationality, is as restricted as the scientists' absolute reliance on rationality. He perceives both restrictive modes of arguing as a direct result of the modern dogma of the inapplicability of reason to value issues, a dogma both sides accept.

In the absence of a systematic method to address value judgments, Booth sets about defining principles to create such a systematic method. His goal is to find "grounds for confidence in a multiplicity of ways of knowing," because, he says, we need to revitalize "what we naturally assume as we go about our intellectual and practical business in the world: namely, that there are many logics, and that each of the domains of the mind (or person) has its own kind of knowing" (99). In these pronouncements, Booth sounds very similar to Toulmin, when the latter complains that formal logic does not address practical arguments and fails to address the question of different logical types of argument as related to different logical fields. Both Booth and Toulmin are interested in creating a systematic method to address practical arguments that are not necessarily absolutely true but rather express degrees of certainty. Both Booth and Toulmin recognize the existence of different logical types, and both Booth and Toulmin are interested in creating an argument structure that encompasses the multiple ways of knowing expressed in the different logical types.

Booth seeks grounds for confidence in reasoning that uses ways of knowing in the concept of "common sense--what we 'sense' and know in common-- . . . a genuinely common ground shared with relevant fellow creatures" (100-101). To this end, he proposes a rhetoric of assent, where we do not begin by doubting a claim, but by seeking reasons for accepting it. He argues that "It is reasonable to grant (one ought to grant) some degree of credence to whatever qualified men and women agree on, unless one has specific and stonger reasons to disbelieve" (101). Booth maintains that it is reasonable to begin with assent rather than dissent, with belief rather than doubt, because assent is more fundamental than doubt:

> But from birth our primary movement is toward the world, to grasp it, assenting to and taking in other selves, new truths, the whole world. Our withdrawals and rejections come always in the light of some affirmation that has been denied or that is being threatened . . . *Our negatives are learned as we discover violations of our affirmings*" (194; italics mine).

Thus, according to Booth, in order to function in the world, we must first accept it. Only when such acceptance is undermined through experience do we begin to doubt. We can, in fact, find Booth's understanding of the sequence of belief and disbelief echoed in the biblical account of the Fall from Eden. Initially, Adam and Eve find themselves in a state of belief as they inhabit the garden of Eden. Then the snake seduces Eve, and Eve eats the apple, and seduces Adam, which results in their ban from Eden. Doubt is introduced, in the form of the snake, *after* Adam and Eve have embraced their world, Eden. The introduction of doubt into the innocent world of Eden causes the Fall from innocence into experience, and from belief (in God, in the good) to knowledge (of doubt, of evil). Thus, in this important cultural matrix of understanding the human condition, belief precedes doubt, just as Booth claims.

Thus Booth reverses the traditional approach of "doubt pending proof" to "assent pending disproof" (101). Traditionally the burden of proof is on those who wish to make us believe something: in the sciences, we prove our hypotheses; in the humanities, we support our interpretations and theories. In Booth's reversed approach, however, the burden of proof becomes the burden of disproof; we accept, unless we have reason to doubt. Booth claims that our area of knowledge is immensely increased by his approach because our knowledge is now "'whatever we have good reason to believe' *in the sense of* 'having no good reason to doubt'" (110; italics mine). He notes that such knowledge is often not absolute, but occurs with degrees of certainty, depending on the degree of disagreement among experts. Again we can note two parallels between Booth's line of argument and that of Toulmin. Like Booth, Toulmin begins with assent, in the form of Claims, and works his way back to defending such claims *in case he is prompted to do so.* The structure of Toulmin's argument model begins with assuming assent, and is subsequently supported, by Data, Warrant and Backings, *if and when* there are Qualifications and Rebuttals. Furthermore, both Toulmin and Booth acknowledge the practical need for degrees of assent, and consequently assume the possibility of such assent in their proposed structure of argument. Their position contrasts with formal deductive logic, which assumes absolute validity or invalidity, with no in-between.

These parallels between Toulmin's and Booth's positions becomes even clearer when we examine the steps Booth describes as necessary to coming to a particular position. First, he says, he has the strength of his own conviction. While admittedly subjective, such convictions can be strengthened or weakened depending on their ability to stand up to tests of strength. Second, he tests his conviction by comparing it to that of others; if few or no people disagree, this strengthens his belief, while much disagreement would weaken it. Third, he tests his conviction by examining its correspondence with other, related convictions and systems of knowledge. For example, if he finds himself supporting the death penalty for terrorism, while usually he opposes the death penalty, say, based on the principle of right to life, then obviously there is ground to doubt his conviction that terrorists should be punished by death. The fourth criterion is what Booth calls the teachability or corrigibility of his conviction (118-121). I find this an unfortunate naming of the category because it so strongly suggests the teacher at work. This is no doubt a direct result of the fact that Booth illustrates his steps with an example of literary interpretation. In this last step, he intends to test his interpretation by its ability to be taught to students. In order to broaden the scope of the category of criteria, I find "persuasion" a more fortunate label. One can persuade students of the validity of an interpretation, and one can also persuade someone of the necessity of the death penalty for terrorists. It is a little more awkward to imagine the teachability of the idea of the death penalty. Hence my renaming step four from teachability into persuasiveness, which, I trust, does not violate the intent of the criterion. The criterion is understood to be a concern with the relationship between writer and audience.

While these steps are, says Booth, admittedly subjective, he believes they form together "a very solid platform indeed" (118). The reason Booth accepts his steps of verification is that, like Fish, he disagrees with the modernist tendency to split the world into objective and subjective, where some things are value-free and others are not (22). He claims that this artificial division causes our troubles with argument about value issues. Like Fish, he replaces this dualistic perception of the world with a more holistic perspective, where communal validation of beliefs lies at the heart of all judgments. Thus, like Fish, he replaces the conflict of two extremes, objective and subjective, with the rationality of the group. Judgments are not radically subjective, nor can they be purely objective; instead, according to Booth, we must verify our claims "by earning communal validation through trying them [the claims] out on other men" (146). Booth's four steps of testing his beliefs do precisely that; in these steps, Booth goes through various ways of testing his beliefs to those of others. Thus he avoids the purely objective criteria of the scientismic position as well as the motivist-type criteria of the irrationalist position. Like Fish, he strikes a balance between objectivity and subjectivity by claiming the criteria for truth to be the domain of the group, of "common sense."

The epistemology that underlies Booth's notion of communal validation is the same as that of the social constructionists. All reject the dichotomy of objective-subjective, and replace it by emphasizing the role of social communities. In cognitive psychology, Vygotsky rejected the objective-subjective division of the various schools of thought in social sciences, and combined the objectivity-oriented naturalist perspective of stimulus-response theory with the subjectivist-oriented mentalist perspective of humanist interpretation into a model where social environment formed the key to understanding thinking and learning. Luria and Bruner described education, particularly in written language, as crucial in the formation of thinking and learning, thus emphasizing a social process, which they narrowed down to a socio-cultural process. In educational theory, William Perry assumes the importance of social interaction in his model, as I have demonstrated previously, and hence combines two traditionally conflicting aspects into one concept. Intellectual growth (traditionally objectivist) and moral growth (traditionally subjectivist) are intertwined in the concept "world view" because Perry assumes the importance of the role of social interaction. Moreover, the transition of absolute objectivism to absolute subjectivism to a shared responsibility in social groups for meaning is reflected in his stages, Dualism (objective), Relativism (subjective) and Commitment (social). In literary criticism, Fish as well as Barthes emphasized the role of communities in understanding texts, thus also emphasizing the role of social forces. Fish, we have seen, makes an explicit argument in which he opposes objectivist interpretation (formalist) to radically subjectivist interpretation (reader response), a dichotomy he dissolves with his emphasis on interpretive communities. While the _specific_ interests of the psychologists (Vygotsky, Luria, Bruner), the education theorist (Perry), the literary critics (Fish and Barthes), and the rhetorician (Booth) evolve from different communal interests and goals, they all share a belief in the authority of the social community as a resolution to the conflict of objectivity versus subjectivity.

To our list of social constructionists as theorists who attempt to dissolve the dichotomy of objective-subjective, we can also add Stephen

Toulmin. Toulmin, in rebelling against the restrictions of the mathematical model and replacing it with his model based on jurisprudence, in fact rejects the objective-subjective division in favor of a social model. He deplores the failure of formal deductive logic to address ordinary arguments--that is, the great majority of reasonable ordinary arguments that are not clearly deductively valid. Traditionally, such arguments are called probability arguments, which may include political, ethical and aesthetic arguments. Booth's "value judgments" and "value issues" fall into the category of probability arguments. The mathematical model for logic displays the same short-comings Booth identifies in the scientismic world view; both perspectives insist on absolute answers, and reject the possibility of addressing the gray area in-between. Both perspectives address only the purely objective, and deny the possibility of addressing whatever falls outside those boundaries: the probable, or the subjective. Booth dissolved the dichotomy of objective-subjective inherent in the scientismic perspective by positing faith in communal validation, thus moving, like the social constructionists, to the authority of social groups.

Toulmin's adoption of jurisprudence as an alternative argument model is in fact the same move: toward the authority of social groups. Jurisprudence is not based on absolutes of Right and Wrong, but on laws, which are communal agreements. Laws are expressions of communal interpretations of right and wrong. Toulmin, like the other theorists discussed in this study, rejects the schism of objective and subjective implicit in the mathematical model, and replaces it with faith in the authority of social groups. Booth's concept of communal validation is not unlike Toulmin's acceptance of jurisprudence, since both concepts represent a faith in the authority of social groups. Booth's concept of communal validation is very useful in the context of Toulmin's argument model because it allows us to perceive Toulmin's Warrants as communal conventions. We can, then, perceive Toulmin's Warrants as expressions of beliefs held by a social group, and his Backings as the written verification of such beliefs, in the form of laws and statutes (as in the Harry in Bermuda example), or in rules and regulations (as in the train guard example). Perceiving Toulmin's Warrants as statements expressing social conventions allows a composition teacher to analyze arguments in the context of the social community that presents them. If teaching writing at the college level entails an introduction into the conventions of the academic community, as this study maintains, then analysis of arguments in the context of their social origin is a useful strategy. For this reason, Toulmin's argument model will be the basis of the teaching strategy I propose.

In comparing Booth's theory to that of the social constructionists, I have laid the groundwork for the suggestion that the modern dogma is not merely reflective of a general cultural attitude prevalent in the early seventies, when Booth published his Modern Dogma, but can also be seen as a result of the kinds of cognitive stages students traverse according to Perry's model. The desire for absolute answers is characteristic of Perry's Dualist stage. The tendency to rely on political or psychological "motivist" arguments is characteristic of the critical attitude towards the values of one's original social community and the resulting search for new allegiances the student experiences in Perry's Relativist stage (although the absolute faith in motivism is as Dualistic as the scientismic perspective). Booth's solution, reliance on communal validation, is characteristic of Perry's third stage, Commitment, except for one distinction: Booth presupposes a kind of universal agreement for his beliefs, whereas Perry emphasizes that the student must choose the validation of particular communities. I am borrowing the terms "universal" and "particular" from Chaim Perelman and L. Olbrechts-Tyteca's The New Rhetoric: A Treatise on Argumentation. In his discussion of argument, Perelman describes audience as a construction of the imagination of the writer, a technique familiar to composition teachers. He makes a distinction between the audience a writer addresses directly in a given situation, the particular audience, and the audience the writer assumes when she makes statements that appeal to the reasonability (in Booth's terms, the "common sense") of a wider audience, which he dubs the universal audience. He defines the latter as "the whole of mankind, or at least, of all normal, adult persons" (30). Perelman notes that some arguments are acceptable to a particular audience, whereas others enjoy the widest possible acceptance, that of the universal audience, which he describes as a right, not a fact (31). Thus truth is presented by Perelman as a matter of agreement among people, not as an absolute. He also notes that each culture has its own conception of the universal audience, indicating the fluctuation of standards typical of social agreements (33).

Perelman's concepts of universal and particular audiences work well in the epistemological context of the theorists we have thus far discussed. His concepts allow us to distinguish between levels of agreement of social institutions of different sizes, particularly if we follow his suggestion that universal standards fluctuate, so that we can use the terms as relative to each other, and translate "universal" to mean "the larger social group," and "particular" to mean "the smaller social group." For example, in Fish's discussion of interpretive communities, he discussed schools of literary criticism as sub-groups of critics in general. In that context, one school could be the particular community, while all critics could be the universal community. However, we also discussed critics in relation to academics in general. In that context, critics would be the particular community, while academics would be the universal community.

Booth's notion of communal validation works well in the context of Perry's model, as long as we allow for Perry's concern with validation by particular rather then universal communities. Toulmin's argument model is useful in expressing this distinction because of his concept of Warrants as social conventions. By introducing Perelman's notions of universal and particular audiences to Toulmin's concept of Warrants, we will be able to express the difference between Booth's universal communal agreement and Perry's particular communal validation by defining the scope of validity of a given warrant as dependent on social context. For the composition teacher, this distinction means that she can address arguments as valid in the context of specific social communities. For example, she can describe the acceptablity of abortion as dependent on audience. If the student addresses an audience of Catholics, she can support a claim against abortion by referring to the shared belief of Catholics that abortion is against the will of God. This shared belief is a warrant that works in the context of this particular audience. If, however, the student is addressing a more universal audience, such as the citizens of New York City, she can no longer assume that the Catholic beliefs about abortion are a shared warrant, because her audience is bound to include non-Catholics. She will then have to support a claim against abortion with a Warrant acceptable to this larger, more diverse, universal audience.

The distinction between universal and particular audiences provides the composition teacher with a way of addressing the acceptability of a given argument to a given audience. The distinction serves as a way of expressing the difference between preaching to the converted versus converting the heathens; each mode of persuading has its own strategies. Such a distinction will help students understand that audiences with opinions different from their own do not need to be, Dualistically, rejected as bad or hopeless, but can be effectively addressed by appealing to values that the two communities, hers and her audiences', share. The distinction serves to help students traverse the transition from Dualism to Relativism, by forcing them to distance themselves from the value systems of their own communities in order to understand that of their audience. Persuasion can then serve as a way to resolve the resulting dissonance.

As writers, students can learn to achieve the distance from their own community's conventions necessary both to effectively address a different particular audience and to achieve development along Perry's model. As persuasive writers, students can learn to reconcile the friction among different communities, as well as their personal experience of friction because of confrontation with conflicting value systems. A focus on persuasive writing thus serves multiple purposes. It can enhance personal growth, because the student can develop a critical understanding of her own values and positions. It can enhance general education, because the student can develop a deeper understanding of the motivations of past and contemporary communities. It can enhance an inter-disciplinary understanding of knowledge, because the approach enables the student to bridge the traditional schism between fields of academic endeavor, a schism that consists not only of differences in format and jargon, but of different epistemologies. Finally, it can serve to make students better writers, because the combination of Toulmin's model, Booth's concept of communal validation, and Perelman's distinction of universal and particular audiences provides the composition teacher with a systematic method of addressing ordinary arguments in their social context, and also provides a method of explaining the importance of audience and argument strategy in a given assignment.

IV. TWO BURKIAN CONCEPTS, AND CLASSROOM IMPLICATIONS

So far, Toulmin's argument analysis based on jurisprudence as a model provides the composition teacher with a structure to address ordinary arguments. Toulmin's analysis of argument structure, particularly when understood in conjunction with Booth's and Perelman's theories on argument, presents arguments as resulting from the belief systems of particular communities: in Fish's terms, from their norms, values and interests. Thus an analysis of a particular argument becomes simultaneously an analysis of audience characteristics. This is particularly useful for a composition teacher who wishes to teach writing as an introduction into the academic community, because an analysis of academic arguments is thus likely to render an analysis of the academic audience. As noted elsewhere in this study, one of the most difficult aspects of teaching composition to freshmen is teaching them what it means to write for an academic audience. Being novices in the academic world, freshmen are generally unfamiliar with the conventions, the habits of mind and of written presentation, of academics. This is particularly the case in an era where many students come from traditionally non-academic backgrounds. Thus Toulmin's argument model, in conjunction with Booth's and Perelman's theories, promises to be a useful tool to teach students academic conventions.

However, in order to make the argument model based on the combined theories of Toulmin, Booth, and Perelman directly applicable to the kinds of arguments composition teachers are likely to address in the classroom, I must address two further questions: 1. How is the composition teacher to present backings and warrants for the kinds of communal disagreements she is likely to present to a composition class? and 2. While we have thus far found a model to express the structure of arguments, can we create a structure or strategy to achieve solutions for the conflicts these arguments express? The first question concerns a matter of classroom strategy: how do we apply this model in the classroom? How does a teacher create a situation where students examine arguments of various parties involved in a dispute? The second question is both theoretical and practical. From a theoretical point of view, in adopting Booth's theories on argument, we have more or less committed ourselves to seeking a rhetoric of assent; we need to find a way of transcending the polarities of disagreement. From a practical point of view, the second question concerns the problem of the student who is to write an argument paper as a result of the examination of arguments from particular communities. She has the task of determining a position of her own, and of persuading an audience of her position.

Both these questions can be answered by some of the theories of Kenneth Burke. In A Rhetoric of Motives, Burke intends to reclaim areas that were traditionally the domain of rhetoric, as well as to show that rhetoric plays a role in areas not traditionally recognized as rhetorical. He notes that the traditional (classical) definition of rhetoric is persuasion, and adds to this description the notion identification, which can loosely be defined as "the ways in which the members of a group promote social cohesion" (xiv). In joining the notions of persuasion and identification, Burke indicates that he, like Fish and Booth, recognizes a correspondence between the notion of persuasion and the notion of shared conventions of a social community. In the Rhetoric of Motives, Burke engages in demonstrating how many texts, including literary texts, have rhetorical elements. Of particular concern to us here is Burke's analysis of persuasive elements in texts. He develops two concepts that will prove particularly helpful in addressing my two questions.

The first concept is Burke's taxonomy of terms, which he develops to categorize types of referents of a text in an attempt to analyze how persuasion occurs. His taxonomy consists of three categories. First, there are the positive terms: "They name . . . the things of experience, the hic and nunc. . . . A positive term is most unambiguously itself when it names a visible and tangible thing which can be located in time and place" (183). Thus positive terms refer to concretely experienced things. Contrastingly, the terms in his second category, dialectical terms, refer to ideas rather than things. Hence positive terms refer to concrete objects like "house," or "tree," while dialectical terms refer to concepts like "legal rights," "capitalism," or "Elizabethanism." Dialectical terms often "sum up a vast complexity of conditions," and are hence less easily defined than positive terms, for which dictionary definitions generally suffice (184). Burke notes that if his taxonomy would stop here, arguments would result, at best, in compromises. He explains that in a situation of conflict, the ideas of each participant are "an extension of special interests," so that conviction of solutions other than one's own is unlikely. Hence a solution of a dialectical conflict must always be a compromise, which leaves at least one if not all parties partially dissatisfied (187).

In an effort to overcome this dialectical polarity (which is, incidentally, a rather adept characterization of Booth's description of the impasse between students and faculty in the late sixties), Burke proposes a developmental approach to persuasion. To this end, he introduces a third category of terms, called "ultimate terms." They can be described as summaries of the motivational clusters of different ideologies. For example, in\Republic VIII\when Socrates describes four different types of government, timocracy, oligarchy, democracy, and tyranny (in addition to aristocracy, his own favored type), Burke assigns these types of government their respective ultimate terms: "honor" for timocracy, "wealth" for oligarchy, "freedom" for democracy, and "protection" for tyranny. The ultimate terms serve to summarize the principles of the ideologies exhibited by the respective government forms. Next, rather than positing these ideologies as polarities of a dialectical conflict, Burke proposes that such ultimate terms can be organized in a developmental series or hierarchy, which he calls an "ultimate order." He describes this method of confronting conflict as the method of mystics. For example, mystics solve the conflict of body and spirit by positing that one reaches spirit *through* the body, developmentally. Similarly, Socrates attempts to arrange the four forms of government into a hierarchical pattern (186-189).

Thus the second concept Burke introduces is a developmental approach to argument, which he calls an ultimate order or ultimate hierarchy. An ultimate order is not an absolute entity, but rather an ideosyncratic one. Burke disclaims agreement (or disagreement) with Socrates' hierarchy, merely wishing to point out the principle of ultimate ordering. Hence it is clear that the hierarchy of governments Socrates proposes is Socrates' personally imposed pattern. The imposition of ultimate hierarchies is, then, not unlike the imposition of cognitive categories: in both cases, a pattern is imposed on seemingly disparate elements in order to organize and hence facilitate one's understanding. And, like cognitive categories, the possibilities for creating new ultimate orders are infinite in principle, and are, in practice, restricted by experience alone. That is, the more an individual is confronted with conflicting positions, or, in Burke's terms, dialectical conflicts, the more the individual is challenged to develop a new ultimate hierarchy. With this description, the parallels between an ultimate order and a cognitive category become quite obvious. The only difference between the cognitive categories Bruner, Luria, and Vygotsky describe and Burke's ultimate hierarchy is that the individual must make a conscious effort to *create* an organizing pattern. Hence the creation of ultimate orders is a very high level of cognitive activity, because its demand for conscious manipulations of abstractions presupposes a conscious understanding of abstract thinking. Burke's approach to solving disputes through ultimate hierarchies provides teachers with a method to challenge students into developing new abstract concepts, and hence with a method to promote higher level thinking skills.

Burke's two concepts, the taxonomy of textual terms and the notion of ultimate order, create the possibility of addressing the questions raised at the beginning of this section. Burke's concept of ultimate terms is a convenient summary of the ideology of a given particular community. Thus, if a teacher presents the perspective of a particular community on a given conflict, she can use Burke's taxonomy to help students discover the underlying cluster of motives that define the interests, values and norms that form the cohesive basis of a particular community. The most effective way of applying Burke's taxonomy is, of course, to a specific text. Thus different perspectives on a conflict can be presented to a class through texts representative of a community's perspective, which can then be analyzed with Burke's taxonomy in order to discover the values and motivations of such a community. This strategy, providing a class with texts representative of different conflicting positions and analyzing them according to Burke's taxonomy, ties in neatly with the use of Toulmin's model in two respects. First, the discovery of a particular community's values and interests is essential to understanding, and being able to predict, its warrants. Second, the reliance on text can serve as the backing of warrants. That is, where the ultimate terms indicate the types of warrants a community would accept and use, positive and dialectical terms can serve as the backing of such warrants.

While Toulmin suggests we seek backings in legal documents and written sets of rules like train regulations, we now have a method to expand the applicability of his analysis of argument structure by allowing as backing any text representative of the views of a particular community. This expansion is warranted if we understand both legalistic documents and texts expressing a community's views as written documentation of communal conventions. Toulmin used legal documents as backing because they expressed communal conventions of a large social community. In a composition class, we need to be able to use his model on a smaller scale, so that it is able to express the values and interests, and the resulting warrants and claims, of small communities, such as religious groups, political interest groups, or even academic disciplines and schools of thought. In order for Toulmin's model to be useful on this scale, it is practical to allow texts expressing a community's beliefs as backings instead of legalistic documents.

Thus Burke's concept of ultimate terms helps the teacher in three ways. First, it suggests she use essays, fiction, or poetry to introduce a particular community's perspective. Second, it suggests she can determine the values, and hence the likelihood of different warrants, of a particular community through analysis of these texts using Burke's taxonomy of terms. Third, it suggests that fiction and non-fiction texts can provide legitimate backing for the arguments of the community whose perspective they express.

Due to Burke's taxonomy, we now have a direct way of applying Toulmin's model in the composition classroom. In a unit on writing argument papers, the teacher can help students discover and analyze positions of different interested parties, based on the use of the argument model I have described. The teacher can use texts representing different positions to introduce the major arguments regarding an issue. Through analysis of those texts using Burke's taxonomy, she can then present respective arguments as resulting from the ideology (in Burke's terms), or the norms, values an interests (in Fish's terms), that form the cohesive basis of particular communities.

With the establishment of the understanding that arguments result from social conventions of particular communities, arguments can then be presented in the form of Toulmin's model. The texts can be used as a source for all the terms in the model. We have already seen how claims, warrants and backings can be located in a text. The Toulmin terms we have not yet discussed in the context of classroom situations are Qualifiers and Rebuttals. While the texts themselves may or may not qualify their claims, depending on the discretion of individual authors, one of the jobs of the teacher is to show that qualifiers may be needed, depending on the counter-arguments encountered in the texts. Such counter-arguments may be found in the same text, but are often more likely to be found in texts presenting different positions. For example, in one text abortion is claimed to be the equivalent of murder, while in a second text, an author claims that a fetus is not a human being. The teacher needs to point out here the relationship between these two arguments. The second claim can function as a rebuttal of the first claim, thus necessitating a qualification of the first claim:

> Abortion is the equivalent of murder (claim), Unless a fetus is not a human being (rebuttal)

becomes:

> Perhaps (qualifier), abortion is the equivalent of murder (claim), unless a fetus is not a human being (rebuttal).

A considerable amount of class time needs to be spent on interrelating opposing claims as potential mutual rebuttals. Such rebuttals necessitate qualifiers, and hence help indicate the validity of claims to a universal audience, which can be imagined to consist of the collection of the particular communities discussed in class. This type of discussion will help the student evaluate the universal validity of conflicting positions, and help avoid the impression that the choice of positions is a purely arbitrary matter.

In practice, it may be wiser not to introduce Toulmin's model as such into the classroom. Toulmin's model is, in this argument strategy, primarily intended as a warrant for the notion that arguments spring from communal value systems. Thus, while the teacher needs to be familiar with the structure of Toulmin's model, the students need not be concerned with it, as long as they understand, first, the relationship between positions (claims) and value systems (warrants and backings) of particular communities, and second, the relationship between the validity of a position (qualifier) and potential objections and counter-arguments (rebuttals). These understandings can be achieved if the teacher bases her class discussions on her own knowledge of Toulmin. She can use the Burkian analysis technique in the same way, not discussing Burke's terminology, but simply applying his kind of analysis in class discussions.

Burke's second concept, the notion of an ultimate hierarchy of terms to replace dialectic opposition, provides the teacher and the student with a way of solving the conflicts between different points of view. A student who has examined the perspectives of several groups on a given issue, who has looked at the values that underlie the warrants, and who has thus come to understand arguments as resulting from particular ideologies is likely to be highly divided in her loyalties. She may well partially agree with several groups for different reasons. How is such a student to determine her own position in the midst of these conflicting positions and conflicting loyalties? Burke provides the answer with his notion of ultimate hierarchy. Burke suggests that the student create her own sequence of value terms, her own ultimate order. The student must, in other words, decide which values from the different perspectives are most important to her. This is not easy for her. In many cases, students have not thought of values as having priorities. They have generally not _consciously_ made a choice, say, between the merit of honesty versus the merit of tact. _Consciously,_ they are only aware that both honesty and tact are virtues, without having addressed their _relative_ importance.

Another reason this step is so difficult is because, as I noted earlier, the imposition of an ultimate hierarchy of terms requires the creation of an abstract pattern of understanding. This pattern is highly complex, because it involves the incorporation of numerous arguments and counter-arguments, and so requires the control of a large

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number of sub-structures. Thus the creation of an ultimate hierarchy is a highly complex cognitive process. Also, the choice between priorities of values can be emotionally difficult, because it involves a re-examination of previously held values, and because it may entail a break with former loyalties to communities the student is or was a member of. Thus, determining one's own position is the most difficult aspect of writing an argument paper. The teacher can help by discussing the notion of priority of values. However, the choice of such priorities must be the student's own.

Thus Burke's concepts make two important contributions to the argument model we have thus far developed. His taxonomy provides a way to do audience analysis through text analysis, enabling students to envision audience as a particular community holding particular values in high esteeem. Text analysis thus becomes a way to do audience analysis, as well as a way to perceive arguments as resulting from a particular value system. In addition, Burke's concept of ultimate order provides a way for the student to form her own position on an issue in a more thoughtful way than through a mere statement of beliefs. Imitating the process of Burkian text analysis, the student can now see her own opinions as the result of a value system. This awareness allows her to critically exmine her own position and values in relation to those surrounding her. Thus Burke's taxonomy, in conjunction with Toulmin's model, and Booth's an Perelman's theories, provides students with a strategy for audience analysis, while his notion of developmentally resolving conflicts encourages students to develop new abstract concepts as well as greater self-consciousness of their own motives, thus promoting higher level cognitive and ethical skills. I have now introduced all the concepts necessary to construct the pedagogy of teaching writing through teaching argument. In the next section, I will outline the pedagogical stages for presenting the argument model in a

V. THE PEDAGOGY

The pedagogy we can now develop based on Toulmin's argument model, enriched with the theories of Booth, Perelman, and Burke, consists of three phases that parallel the three phases of Perry's developmental scheme. In the first phase, the teacher should begin teaching the course unit on argument by asking the students to examine their current beliefs and opinions regarding a chosen controversial topic. She can do this by asking them to write a brief expressive or narrative paper, thus allowing the students to focus on their individual stances, or, if their position is likely to be a consensus, she can elicit verbal student participation, and use the black board to write down the position of the class as a whole. Beginning with either individual opinions or a class consensus provides the students with a starting point on the issue of controversy that they can return to for reference once they have been confronted with conflicting positions through texts the teacher introduces later in the unit. Beginning with the students' beliefs allows the students to articulate their beliefs, which will be helpful when they need to re-examine their initial positions in the light of other arguments. Such other arguments may well serve as rebuttals to their original position, thus forcing them to qualify or even change their original position. In terms of Perry's model, such an initial statement of belief, collective or individual, is parallel to his Dualist phase, because it is a non-reflective, thus far unsubstantiated position.

In the second phase of the pedagogy, the teacher introduces texts representing various conflicting points of view on the controversial issue, thus introducing the kind of plurality of perspectives Perry called for in his educational advice. The texts can then be examined, using Burke's taxonomy and Toulmin's argument model as described in the previous section, to establish the value systems of conflicting parties, the arguments resulting from those value systems, and to establish the "universal" validity of the conflicting positions. This introduction of many points of view, whose validity is carefully examined, has the effect of introducing relativity into the classroom. Thus this phase of preparation for the argument paper parallels Perry's stage of Relativity.

In the third phase of the pedagogy, the student must determine her own position, with all the difficulties described above, using Burke's concept of developmental resolution of conflict through ultimate ordering. This choice of position through the establishment of an ultimate order parallels the decision a student must make in order to move from Perry's stage of Relativism to his stage of Commitment. The choice of position involves, as noted above, a re-examination of initial beliefs, which we now have in written form through the first exercise of the argument unit. It also involves a commitment to certain values, and hence to certain particular communities, which may entail a renewed, but now self-conscious commitment to one's initial position, or it may entail a qualification, or even a complete rejection of the original position. The latter two are the most painful for the student, because they involve a severance of ties with the community they thought they belonged to, in order to allow new commitments to new values and hence new communities.

Thus the pedagogy for teaching argument I have developed allows for the possibility of traversing Perry's stages completely. Of course most students will not reach the kind of commitment Perry describes as the highest level of development, which constitutes a very carefully weighed choice. As a result, a student unable to transcend the Dualist stage is likely to produce a paper which strongly states her beliefs, which fails to adequately support those beliefs, and which fails to adequately address counter-arguments or rebuttals. A student in the Relativist stage is likely to produce a paper which addresses arguments of several sides fairly thoroughly, but which fails to have a clear focus or final position. A student in the stage of Commitment is likely to produce a paper which not only takes a clear stance, but which also supports that stance convincingly, and addresses counter-arguments extensively. Thus the kinds of papers students produce will give a teacher a clear picture of the level of cognitive and ethical development of her students. The growth of a student within the timespan of one unit can be determined by comparing the inital statement of belief to the final paper. Growth over a longer period of time, such as a semester, can be determined by evaluating the student's progress in learning to support her own position, as well as her willingness and ability to address perspectives other than her own in her written work.

These three norms, which we can summarize as focus, support, and ability to address conflicting positions, are criteria in several scales of evaluation relevant to this study. As shown above, they are, first, criteria for determining the student's position on Perry's developmental scale. Second, they are important criteria for the evaluation of thinking skills, in particular of those thinking skills required in an academic environment. All academics, regardless of specific discipline, need to be able to present a coherent line of thought, need to be able to support their claims, and need to be able to understand and address claims and arguments of other theorists. Thus the three criteria reflect a student's success in becoming a member of the academic community, because they reflect her ability to work within the framework of conventions, of habits of thought and habits of written presentation, of the academic community.

Third, the three factors, focus, support and abiltity to address the views of others are traditional criteria in the evaluation of writing. Focus and support are criteria in all kinds of writing, although the support may take different forms. The support in a narrative, for example, may consist of character descriptions and development of scene. In expository writing, support may consist of descriptions of the campus parking lots under discussion and a thorough explanation on campus parking rules and regulations in an exposition on the parking problems on campus. In argumentative writing, support would consist of explaining the reasoning behind different claims. The third criterium, ability to address views of others, is less obviously traditional. In argumentative writing, most composition teachers and theorists will be familiar with the classical concept of refutation--the argument strategy that involves addressing, and refuting, one's opponent's arguments. However, also in other kinds of writing, understanding the point of view of others is often a necessary element for substantive content and effective communication. For example, in narrative writing, one must be able to understand the views of others in order to create credible characters. In expository writing, to stick with our parking-problem example, a paper will be considerably enriched by interviews with students, with parking lot attendants, with campus security, wih deans--with, in other words, the conflicting views of others. Most importantly, in all types of writing, an understanding of one's audience is vital to effective communication. Such an understanding involves, of course, the ability to understand and address the perspectives of others. Thus the third criterium is, from the point of view of composition teachers, merely a new, and hopefully helpful, way of describing a familiar evaluation factor: attention to audience.

In these criteria, the concerns of the main perspectives we have considered in this study are expressed: the educational, the cognitive developmental, and the rhetorical. Consequently, by focussing on instruction in writing as preparation for these three evaluative criteria, a composition teacher encourages progress in several vital, related areas: writing, thinking, membership in the academic community, and ethical growth. This study began with the question of the relationship of writing and thinking as it applies to college students, noting that for this age group, this relationship is insufficiently examined in current composition theory and practice. The pedagogy outlined in this chapter, which consists of teaching writing through argument with the aim of promoting students' ability to focus, to support their position, and to address the views of others, responds to the issue I raised at the beginning of chapter one: it provides a theoretically based method to teach writing as thinking at the college level.

The pedagogy also fulfills the criteria I set at the end of chapter two. These criteria were 1. a focus on language as reflecting community constructed interpretations of reality, 2. an emphasis on collaborative learning techniques, 3. a focus on argument as an important mode of communication, and 4. an emphasis on a sequencing of assignments that facilitates the cognitive and ethical developent of students. The pedagogy fulfills these criteria as follows. The pedagogy centers around argument, presenting it as a vital mode of communication in academia (criterium 3). The overall sequence, beginning with the beliefs of the students, moving toward introduction and subsequent examination of other points of view, culminating in the students' own papers, is parallel to Perry's developmental scheme, and is intended to encourage development along its lines (criterium 4) Through Burke's taxonomy, the teacher can present the language in texts as reflecting community constructed interpretations of reality (criterium 1). Only the emphasis on collaborative learning (criterium 2) has not been clearly indicated. This aspect of the pedagogy can be suggested in a discussion of how the pedagogy addresses conventional concerns of teachers who teach writing as a recursive process. It will also become clearer in the description of the models for teaching units leading up to the production of a formal paper in chapter four.

Before I present such teaching models, however, I want to point out how the phases of the pedagogy can be used to teach writing as a process in college writing courses. Teaching writing as a process generally involves attention to the following elements: invention or planning; drafting or organization; rewriting or re-organization with attention to audience; and editing, which includes elimination of surface errors, adding stylistic improvements, and final proofing. Among theorists, the model for writing as a recursive process has largely replaced the linear model of the seventies. In practice, however, many current text books that are published still present the writing process as linear, treating its parts chapter by chapter, as if in the first paper one learns to invent, in the second to draft, in the third to rewrite, and so on. The argument pedagogy I have developed is recursive in structure. In one unit, leading up to one formal paper, all the parts of the writing process are addressed. Moreover, the examination of the parts is not strictly linear even within the unit; invention, for example, occurs in each phase of the teaching sequence. But let me discuss phase by phase how conventional composition concerns are addressed within the structure of the pedagogy.

In the first phase, where students express their beliefs, they are predominantly inventing. The product of this phase is to be a written statement of their beliefs. In order to get there, many conventional invention strategies can be used. Students can use looping or cubing (Cowan and Cowan), free-writing or mapping (Elbow, Murray); they can have a class discussion using the blackboard as collective recording center; they can use journal assignments or in-class writing; they can use small-group discussions to brainstorm and then write. In short, the plethora of invention techniques that form part of the lore of the field can be used. Thus the first phase focusses on initial invention, with little attention to other aspects of the writing process.

The second phase is much more involved than the first. Here, invention, audience, drafting, and organization are all addressed. The teacher introduces a selection of texts, derived from an anthology that is thematically organized around issues, such as the Borzoi College Reader. She can also collect her own selection from newspaper articles, song lyrics, magazine articles, poems, stories, essay collections, and so on. In this selection, the teacher must take care that the texts represent conflicting views of different communities. (Examples of such selections will be shown in chapter 4). In discussing each text, the teacher needs to emphasize the text as a voice representing the views of a particular community. Using Burke's taxonomy and Toulmin's argument model, she can then analyze the texts to determine the value system of the community the voice represents, and the arguments as resulting from these value systems.

From a composition perspective, this text analysis technique has numerous advantages. First, as we discussed above, it gives the students an opportunity to familiarize themselves with the ways of thinking, the habits and expectations, of a segment of their audience. Second, it introduces the major arguments concerning an issue to the students, so that reading these texts is a form of invention. Moreover, reading such arguments may lead, spontaneously or under guidance, to the invention of other arguments. Also, the examination of the value systems of particular communities may lead, under guidance, to the invention of more arguments. In other words, the texts can lead to a multiplication of invention, specially if the teacher encourages students to attempt such elaboration through large or small group discussions, or through writing exercises. For example, she can ask a small group to examine a text, determine the community it represents, and to invent other arguments this community could make concerning the issue. If several groups do this with several texts, and then share their work with the rest of the class, a class can invent a large number of arguments in one class period.

Third, reading these texts, particularly if they are argumentative essays, can help students learn the form an argumentative text may take. Different modes of development can be discussed as argument techniques. Thus stategies such as the use of emotional, ethical, and logical appeals can be examined. This in turn may lead back to a discussion of audience conventions. While, for example, advertisers can get away with appealing largely to emotions and values, in academic arguments the most respectable mode of persuasion is through logical (i.e., reasonable) appeals, while emotional and ethical appeals may serve to enhance the arguments. Also, a teacher can show how a text that addresses the arguments of its opponents tends to be more universally acceptable than one that merely states its own beliefs and arguments. For the texts to serve as models of development and organization, it is wise to include several essays in the selection of texts. Thus the texts can serve both as models for argument techniques, and as vehicles to discuss academic conventions concerning arguments.

Fourth, the texts can also serve as a basis for initial drafts. For example, the teacher can discuss one text as described, and then ask the students to do a piece of writing in response to the text. Thus they can, for example, practice arguing with the particular audience of one text, or they can practice summary and paraphrase. The latter is useful because the student will use arguments from the texts as support in her own paper. Writing short summaries and paraphrases allows her to practice the skills she needs in writing her final paper. It may also be a good idea to help the student organize her thoughts about who says what by assigning an expository piece or a synthesis of the texts, in which the student reviews the major arguments discussed in class as well as which communities make them, without addressing the question of her own position amidst all the arguments. Such an assignment provides a kind of survey of the field, as a closure of the second phase of the pedagogy. Thus the second phase can be used to address audience, to expand invention of arguments, to begin addressing questions of development, form, and organization, and to begin drafting through small writing exercises that allow the student to practice writing skills needed for the final paper.

In the third phase, the student begins drafting in earnest. To write a first draft, it may be helpful for her to return to her initial position statement, to see if she still feels that way about the issue, after having been confronted with conflicting positions and arguments. Then the process of qualification and supporting begins. It is probably advisable to divide the drafting process in at least three parts. In the first draft, the student is to define her position in a thesis statement, and to present the major arguments supporting her position. Such a draft can be followed up with an in-class workshop, in which peers in small groups or pairs (depending on the length of the paper and the length of the class period) have three editing tasks; one, to help her identify if she has addressed the major arguments suitable to her positions; two, to help her identify which conflicting arguments it would be most useful for her to address; and three, where such refutations would fit best in the overall structure of her paper. These editing tasks can of course be spread over more than one class period, and over more than one draft, as the teacher sees fit. With the editor's comments, the student can then write her second draft, improving her own arguments, and adding a refutation, in which she deals with the most important conflicting arguments. This draft can then be used in a second workshop, which is aimed at final editing of the draft. Here, the teacher can focus on stylistic concerns and/or on grammar problems, as fits the needs of the class and the student. Thus the third phase relies heavily on peer input, and is used to address tone, organization and content. These three aspects can be approached from the perspective of a specific audience if the teacher assigns one. I usually assign "the audience that least agrees with the student's position," which is to be one or more of the audiences examined through the text discussions. Hence part of the editing task in the first revision workshop is to determine the student's audience, which can then be used as a guide in proposals for organisation, tone and content. To summarize, then, the pedagogy addresses conventional composition concerns as follows. The first phase of the pedagogy focusses on invention. The second phase focusses on invention, on audience recognizance, on forms of development and organization, and on initial drafting. The third phase focusses on drafting, revising, and editing, all with a specific audience in mind. Thus the three phases of the pedagogy are not only reflective of Perry's developmental model, but also of writing as a recursive process. In chapter 4, I will present specific sequences of assignments, intended as models for teachers who wish to adopt the pedagogy.

VI. WRITING ACROSS THE CURRICULUM

Where in the previous section I have suggested how the pedagogy may operate in a freshman composition course, in this section I will discuss how the pedagogy can apply in writing across the curriculum courses. The underlying assumption of such an application is that if in a freshman writing course the pedagogy serves as a way of introducing the habits of thought and the habits of presentation of the academic community as a whole, then in a writing across the curriculum course the pedagogy can serve to introduce the conventions of specific academic disciplines. This assumption is warranted by my belief that the conventions of specific disciplines can be explained as resulting from their respective goals, values, norms, and interests. In other words, I assume a social constructionist perspective on academic disciplines, perceiving them as a collection of particular communities, each engaged in its own approach to explaining the truth according to its own conventions. The image of academic disciplines that reflects my perspective is thus not the tradional image of the Age of Enlightenment, where Man (scientists) Discovered the Truth through careful application of Reason, because this image assumes the epistemology of an absolute Truth which must be found, and a shared understanding of the importance of facts. Earlier, I have characterized this epistemology, borrowing Perry's term, as essentially Dualistic. Instead, my image is based on the social constructionist epistemology, which depicts social communities (in this case, academic disciplines) as constructing patterns based on communal agreement in order to explain the chaos of experience, where each explanation is a version of the truth (with lower case t).

My image of academic endeavor is rather like Faulkner's representation of the search for meaning in his Absalom, Absalom! In this novel, he presents four narrators, who each relate their perspective on the history of Thomas Sutpen. The four narratives partly overlap, partly complement each other. While each narrator presents the story as he or she knows it, each separate narrative is incomplete. The combination of the four narratives presents a closer approximation of the Truth than each narrative alone. However, the Truth can never be uncovered, only approached. Presumably, the more narratives, the closer the approximation. This image parallels my understanding of academic endeavor in that each discipline can be seen as a narrator, whose version of reality is a truth, in an approximation of the Truth. As each narrator constructs his or her interpretation of experience, so each discipline constructs its interpretation of reality.

Of course not all academicians agree with this perspective on their endeavors. However, even among the natural scientists, who are traditionally the most staunch defenders of the epistemology I have called Dualist, there is a growing number of scholars who accept the social constructionist perspective. The views of this emerging group are most clearly represented by Thomas S. Kuhn, in his The Structure of Scientific Revolutions. In this text, Kuhn presents the history of natural science not as the positivist image of "development through accumulation," but as a series of models, or in his terminology, paradigms, that are collectively agreed-upon interpretations of reality (2). He explains that the positivist image of science, perpetuated by the classics and by textbooks, suggests that individual discoveries and inventions changed the course of scientific development. However, according to Perry, historians of science have had difficulty isolating such instances of change. Consequently, they have begun to examine individual researchers in the context of the scientific beliefs of their times, rather than "seeking the permanent contributions of an older science to our present vantage" (3). This approach, which focusses on the internal coherence of individual instances of research, provides a different image of the history of science. Normal science, from this perspective, must be described "as a strenuous and devoted attempt to force nature into the conceptual boxes supplied by professional education" (5). He calls such conceptual boxes, which consist of "scientific belief," paradigms (4, 10). The history of science is then the history of changes in paradigms. Such changes, called "scientific revolutions," occur when anomalies in normal science become unavoidable, and force a change in the assumptions of the dominating paradigm. Scientific revolutions, says Kuhn, "are the tradition-shattering complements to the tradition-bound activity of normal science" (6).

Kuhn's description of the history and practice of science is based on the social constructionist epistemology (see also Bruffee's discussion of Kuhn in his bibliograpical essay on social constructionism). Kuhn describes scientists as interpretive communities, that share beliefs, methods, and rules for the interpretation of reality. He uses the term paradigms to describe the body of shared conventions that form the cohesive basis of an interpretive community. Also, he notes that shifts in paradigms constitute shifts in world view (111-135). The notion of world view belongs to the vocabulary of the social constructionist, as we saw in the discussions of Perry and Bruner. Thus, according to Kuhn, scientists are involved in making meaning, like Fish's and Barthes' readers were making meaning in reading a text. Scientists are bound by the rules and conventions of their paradigm; readers are bound by the rules of their interpretive community.

Kuhn's theories provide a way of addressing the differences between academic disciplines systematically. For example, one difference between natural science disciplines and humanities disciplines is that scientific disciplines currently have one paradigm that is adhered to by almost all scientists, while social science and humanities disciplines have many conflicting schools of thought within each discipline. These differences can be described as different phases in the development of each discipline. In describing scientific revolutions, Kuhn distinguishes four phases. The first phase a discipline passes through is called pre-paradigmatic. In this phase, different schools of thought compete for acceptance by members of the disciplinary community. Eventually, such competing schools of thought can be resolved, or rather, replaced, by a single dominating paradigm, accepted by all or most members of the community, leading to the second phase, normal science. The paradigm of normal science can then be disrupted by too many anomalies, resulting in a state of crisis, the third phase. This state of crisis resembles the pre-paradigmatic phase in that different schools of thought will emerge, each attempting to explain the anomalies in a new paradigm. The state of crisis is then resolved through the fourth phase, the scientific revolution, which consists of a replacement of the formerly dominant paradigm with a new one that is accepted by all or most members of the community (52-65). The competition of schools of thought in the disciplines of the humanities and social sciences can thus be explained by characterizing these disciplines as being either in a pre-paradigmatic state, or as being in a state of crisis.

Based on Kuhn's endorsement of the social constructionist perspective, a composition teacher can approach the teaching of writing across the curriculum as an introduction into the communities of the respective disciplines, using the pedagogy of argument described in the previous section. She can present scientific discourse as arguments for the perspective of a discipline or of a school of thought. In the disciplines that are, in Kuhn's terms, in the phase of normal science, the internal discourse, which consists mostly of research reports, will be more expository and demonstrative than argumentative or persuasive, because the community agrees on the relevance of facts, on methods used, and on shared warrants. Since the intra-disciplinary perspective is unified, we can characterize it, in Perry's terms, as Dualist, and hence expect the kind of communication form that fits such a perspective to dominate. However, inter-disciplinary communication, such as essays by natural scientists addressed to a broad intellectual audience, are likely to be more persuasive than expository, because the writer can no longer assume a shared world view. A teacher of writing in the natural sciences can discuss these two types of text, and analyze them according to Burke's taxonomy and Toulmin's model, in order to extract the shared assumptions or world view of a particular discipline. Such shared assumptions will include notions about methodology, choice of subjects worthy of study, and accepted discipline-specific theories. Furthermore, she can explain the expository aspects of research reports, and the persuasive aspects of essays, in terms of audience.

In a discipline where different schools of thought compete for adherence, intra-disciplinary discourse is likely to be as persuasive as inter-disciplinary discourse, because there is little agreement, even among members of the discipline, about methods, theories, and choice of subjects worthy of study. For example, we discussed earlier the schism in the social sciences that Cole and Scribner described as the division between mentalists and naturalist. Mentalists and naturalists do not agree on what subjects are worthy of study, or on methodology. Mentalist research often consists of case studies, where researchers may, for example, examine dreams of subjects based on the subjects' reports of such dreams. Naturalist scientists are more likely to do laboratory experiments, with high control over variables, so that experiments can be repeated, thus providing a greater reliability of results. A course in writing in the social sciences can apply the pedagogy by selecting texts to represent different schools of thought, and by using the Burke/Toulmin analysis to demonstrate the different assumptions of the schools of thought. A study of writing in the social sciences and the humanities is more likely to be a study of argumentative or persuasive texts, because most of the disciplines in these fields are either in a pre-paradigmatic stage or in a stage of crisis. A study of writing in the natural sciences can focus on the expository and the persuasive elements of the different types of texts, as related to the audiences of these texts. The advantage of using my argument pedagogy in a writing across the curriculum course is that the study of texts leads to an examination of the assumptions and ways of thinking of a discipline, in addition to an examination of forms of presentation. Thus the teaching of writing across the disciplines can truly be a study of the relationship between writing and thinking in a discipline, rather than a mere skills-oriented appendix of the discipline.

CHAPTER FOUR

PEDAGOGICAL MODELS

I. TEACHER MODELS

The class plans described in this chapter are intended as guidelines for teachers who want to try teaching with the goals and principles of the pedagogy explained in the previous chapters. Because Chapter Four is specifically addressed to college level composition teachers, I have arranged my discussion around a calendar of lesson plans. They are intended as a reference guide, and demonstrate possible applications of the kinds of progressions or sequences suggested by the pedagogy. For each model, I provide first the calendar for the entire unit in preparation for one final essay. The calendars are followed by day-by-day discussions of assignments and activities, followed in turn by an analysis of their purpose in light of the pedagogy.

An alternative arrangement of the discussion, one more closely related to the preceding theory, would have been more attractive to theorists, but less useful for teachers. Such a theoretical arrangement would follow the development suggested in section V of Chapter Three:

> Invention activities, such as freewriting and brainstorming, are intended to explore Phase I of the pedagogy, the dualist position of the students. They are also intended to begin to develop focus on the topic.

Class readings introduce new communities and their conventions (Warrants and Backings). These readings are intended to address Phase II of the pedagogy, Relativism. They are also intended to begin to develop support, and to explore audience expectations through confrontation with conflicting views.

Drafting, where students determine their own position amid conflicting views, is intended to address Phase III of the pedagogy, Commitment. It is also intended to pull together the goals of focus, support, and ability to address the views of others.

This theoretically-based sequence is implicit in the lesson plans that follow, but the explicit focus is on how each activity or assignment addresses one or more of the aspects of the pedagogy.

An advantage of presenting my discussion of the teaching models day-by-day is that it brings to the fore the recursiveness of the pedagogy, and demonstrates its parallels to the currently popular mdoel of writing as a recursive process. The sequence of Invention, Class Readings, and Drafting looks more linear than its classroom application because this sequence shows only when a new aspect is introduced, not as these aspects are then developed throughout the unit. Day-by-day discussions of lesson plans are more likely to be helpful to teachers who wish to know "what to do on Monday morning," as well as to those who wish to see how this model relates to their past and current teaching habits.

In this chapter, I have included three models for writing across the curriculum: one for the natural sciences, one for the social sciences, and one for the humanities. The purpose of the pedagogy in writing across the curriculum courses is to provide students with a rhetorical, humanities-based perspective on a given discipline. The intention of the pedagogy is not to train students in a given discipline, but to provide a general education-type understanding of the activities and convention (the habits of mind and of presentation) characteristic of a discipline. The field of composition, and, by extension, composition teachers, is not equipped to train students in the specific activities of author discipline, but teachers are equipped to provide this rhetorical perspective on community conventions.

The rhetorical perspective is generally not addressed by experts in the field, because experts are often not aware of the reasons behind their conventions, and sometimes not of the conventions themselves. They learned the conventions of their field through absorbtion of models from textbooks, teachers and colleagues, creating their own blueprint-like understanding through imitation in Vygotsky's complex sense. However, they are not necessarily conscious of the possesion of these blueprints.

A non-disciplinary example of how one may be unaware of one's own conventions comes from personal experience. My mother was always very particular about not putting things on the floor. Unwittingly, I had adopted her habit. My husband loves to put everything on the floor, and leave it there. When we first started living together, this was a great source on contention. My husband could not understand why it was so important to me not to have things on the floor, and, not having thought about my habit a great deal, I could not explain it. So I would step on his books, kick over his drinks, and fall over his clothes. I would say, "Pick up your stuff!" and he would say, "Watch where you are going!" Eventually I began to develop better arguments by uncovering the warrants underlying my position (an empty floor looks neater, it makes life simple because you don't have to watch where you step every minute, it makes cleaning easier, and best of all, pets and children can't get into a mess). It took time for me to become aware of the conventions I had adopted from my mother.

Rhetoric can help bring to the forefront characteristic conventions, and can help uncover the logic behind these conventions. This is the role rhetoric can play in courses across the disciplines: developing a greater awareness of the coherence of a disciplinary community, and, because of this awareness, a greater control over the complex processes involved in a field of knowing. Consequently, in the across the curriculum lesson plans, the focus is on discovering the convention of the pertinent field. Toulmin describes Warrants both as shared general beliefs and as shared rules of inference. In these models I treat methodological conventions as Warrants while the goals and interests of a discipline, such as the kinds of subjects it is interested in, and its perspective on the desirability and admissability of objectivity and subjectivity, are treated as Backings.

I included units on the social as well as the natural sciences in an attempt to help composition teachers overcome their reluctance or even fear of teaching writing courses in these fields. Also, although the Natural and Social Sciences share many characteristics in their desired forms of presentation, their methodologies and their goals, their interests are sufficiently different to warrant separate units.

In the social science unit, students act like social scientists in performing a survey. Hence their final essays are more or less in the form typical of the social sciences. Also, students can achieve the third phase of the pedagogy, Commitment, in their choice of subject, hypothesis, and support on the final paper. In the natural sciences units, it is more difficult to act like a scientist because in order to write a paper that involves abstract complexes, a relatively high level of field-specific expertise is required. Thus, for natural science majors in their third year, the social science lesson plan can be used by substituting natural science topics and natural science experiments.

For students who lack expertise in the natural sciences, I have included a lesson plan that allows them to examine community conventions without actually performing them. Instead, students write a critique, explaining the use of communal conventions in professional research. In a critique, students have to focus, support and recognize conventions of others; they are aware of community conventions, but don't have to act them out. Although sudents do not reach the third phase of development in the pedagoy, I feel this approach is legitimate given the purpose of introducing students to field-specific conventions from a rhetorical, humanities-based perspective. Thus, students go through most of the preparatory steps of argument structuring, but evaluate the arguments of others rather than creating their own due to their lack of field-specific skills.

The unit on the humanities was included to show an alternative to literary criticism as the focus--an approach English teachers are all too likely to fall back on. I define the humanities' goals and interests (Backings) as a concern with ethical and aesthetic values. This means an interest not only in how a value is expressed, focussing on quality of expression, but also in the merit of the value itself, from an ethical perspective. Backings can thus be seen as the interest in values, and Warrants are the methodologies applied to develop a critique. The final assignment asks students to address both the question of merit of a value (in their theses) and the question of well-executed support, in their analysis of personal experience, and in their use of the critiques (the class readings) as support. Thus each model presents a possible application of the pedagogy, but certainly not the only application.

II. 101 MODEL: COMPUTER UNIT

In this chapter, I provide several teaching models that consist of the sequence of assignments and activities in preparation for one formal paper. There will be four models: one for a freshman composition course and three for writing across the curriculum, with one model for social science writing, one for natural science writing, and one for humanities writing. The latter three models can be used for all undergraduate levels. Although the writing across the curriculum units are likely to be more effective if the students have first taken a freshman course based on the same pedagogical principles, this is not absolutely necessary.

For the first model, I have chosen a unit on argument I taught in a Freshman course in the Spring of '87. This unit was not the first but the fourth unit in the semester. Before I explain the particular activities of unit four, I must briefly describe the structure of the previous three units, because they served as preparation for the fourth. The course, spread over 15 weeks, consisted of five units in all, so each unit took approximately 3 weeks. The last unit is devoted to applying all the writing techniques learned over the course of the semester to writing essay exam answers, including short answers, long answers, and take-home answers. The fifth unit thus functions as a review unit. The first four units, which each result in one final formal essay, are both cumulative and recursive, because each consecutive paper requires greater control over the abilities introduced, and in each unit several phases are progressively traversed. These abilities, the ultimate aims of the course, are, as explained in the previous chapter, focus, support, and ability to manipulate a variety of perspectives. Also, each unit addresses part or all of the phases of the model I outlined in the previous chapter. These phases were described as follows:

Phase 1: Dualism--narrative and expressive writing are used to explore the student's initial position

Phase 2: Relativism--readings are introduced to provide plurality, which caused cognitive friction about value systems. Expository forms of writing are used to clarify the various positions, to explore the relationships of arguments, beliefs, values, and interests.

Phase 3: Commitment--the student attempts to resolve the cognitive dissonance caused by the plurality of the previous phase by writing a focussed argument defending her own position, while considering the views encountered through readings and class discussions.

The four units are sequenced to address increasingly higher phases. Each unit is organized around a set of readings about one issue or topic. In addition to preparatory work such as journal assignments, class or group discussions, in-class writing and the like, each unit results in two graded papers, the exploratory paper and the final essay. The exploratory paper is used to practise one aspect of the final essay. Thus the exploratory and final assignments of each unit can serve to indicate the progression along the phases and aims of the pedagogy for the first three units. Then, in discussing the fourth unit, I will show how preparatory activities lead up to such exploratory and final assignments. I will discuss the fourth rather than the first unit in full because only by then has the class reached the point where they actually write an argumentative paper.

The First Unit

The exploratory assignment:

In the first unit of this particular course, our topic was male and female roles. The exploratory assignment was to write a personal narrative, in which the student related her past experience with gender roles.

This assignment is typical of Phase 1, because it uses the narrative form to explore the student's own Dualist position.

The final assignment:

The final assignment asked the student to present her views on gender roles in a competition for a place on a discussion panel, and to support these views with personal experiences as collected through the exploratory draft and other preparatory activities.

The final assignment begins to address Phase 2. In trying to present her views for a panel discussion, the student must begin to project an audience of mixed communities and of mixed opinions. Also, this final assignment is more expository than narrative, because it asks her to produce a general statement of belief. This general position is then supported with the narratives she has previously produced. In this assignment, the student also has begun to practise the aims of the course. In her general statement of belief, she must use controlling general statements that focus the rest of the paper. In using previously written narratives as support, she is learning to support a position based on personal experience. And in addressing a discussion panel audience, she is first confronted with being expected to address an audience outside her Dualist community. Here she experiences for the first time the need for strategy in confronting conflicting value systems. At this point, the strategy mainly consists of providing support in the form of personal narratives.

The Second Unit

The exploratory assignment:

The topic of the second unit was the student's own writing process. First the students read several essays by professional writers describing their own writing process, and did a number of pre-writing exercises and small oral presentations. Then, for the exploratory draft, students were asked to describe how they wrote one particular academic essay.

This assignment belongs to Phase 1, because it is again a narrative about a personal experience.

The final assignment:

For the final assignment, students were asked to write a speech to incoming freshmen about expository writing. They were to analyze one aspect of the writing process, and to use this aspect to focus their address. The focussing aspect was derived from their analysis of their own exploratory draft. Thus they were to use the narrative of the exploratory draft as the main support for the final essay.

This assignment belongs in Phase 2. In the first place, their audience is more than likely not deeply interested in their subject. This means they have to work at being interesting, which we tried to do by having dramatic narratives and lively introductions. In the second place, the essay is an analysis, which is an expository form of writing. Focus is provided by the single aspect of writing. The focus is expressed in a 5W lead for the essay. (The 5W lead is a journalistic device, where the focus of an article is summarized in one sentence, which is a response to the question: "Who did What, Where, When, and Why?") Support is provided by use of the exploratory draft's narrative--one long personal experience as opposed to the collection of short examples of the first paper. Attention to a pluralistic audience is provided by having to interest a hypothetical group of uninterested students.

The Third Unit

The exploratory assignment:

The topic of the third unit was television and its effect on audience. We began by reading a number of essays which addressed several controversial aspects of the subject. Then the students conducted interviews to discover people's opinions on television's influence on their lives. In the exploratory draft, students were to summarize their interviews, transforming the question-answer format into prose paraphrases, with may be a few quotations.

The final assignment:

For the final assignment, students had to explain one particular effect television has on its audience. They were to support their explanation by using their interviews, personal experience (as derived from pre-writing exercises), and examples and arguments from the class readings.

This final assignment is a transition between Phases 2 and 3. The essays are still expository, because the primary aim is to explain a position. However, conflicting opinions are more clearly addressed, because the subject is clearly controversial. Also, because of the variety of support the students use, they are more likely to incorporate conflicting opinions in their own writing. With this assignment, we have also progressed with control over the aims of the course. To properly focus this essay, the student must use a thesis statement. Support of this thesis is more complex than before, because two new modes of support have been introduced: interviews, and selections from the class readings. To expand the audience, the assignment was framed as an editorial in the local newspaper, so that the student was made aware of differences between her views and those of her audience through the assigned audience as well as through the readings and interviews.

The Fourth Unit

Introduction

For the fourth essay, the topic was computers. In this unit, we are ready to write an argumentative final essay, thus fully moving into Phase 3. Because of time constraints, on this occasion we spent very little time on Phase 1, the personal connection with the topic. On the first day of the unit, we spent about ten minutes talking about individual experiences with computers. Otherwise, exploration of personal opinion occurred mostly in the form of individual responses to the readings during class discussions. Part of the reason I explicated the structure and goals of the preceding units was to show how a considerable amount of course work was spent on exploration of Phase I, even if in unit four such attention was minor. The fourth unit took place in nine 50-minute class periods. A calendar for the unit is provided below, followed by a day by day description of activities. Copies of the exploratory and final assignments are provided in Appendix A.

CALENDAR UNIT IV

Day #:	Homework:	Description of in-class activities:
1.	READ: in Borzoi, Sagan (p.713) & Weisenbaum (p.723).	Discuss texts; small group summaries.
2.	READ: in Borzoi, Sheridan (p.736) & Levy (p.742)	Discuss group summaries; discuss texts.
3.	READ: material on library use in handbook	Library trip to find outside source.
4.	DUE : one library source	Discuss synthesis
5.	DUE : EXPLORATORY DRAFT: synthesis--see assignment	Explain argument techniques
6.	DUE : First draft of final assignment IV	Workshop on argument techniques
7.	DUE : Second draft of final IV	Revision workshop
8.	DUE : Third draft of final IV READ: Material in handbook on comma splices, fragments and runons	Editing workshop
9.	DUE : FINAL DRAFT OF FINAL ASSIGNMENT IV.	

Day 1

A. Assignments and activities:

For day 1, the students had read two essays on the subject, one by Carl Sagan, "In Defense of Robots," and one by Joseph Weizenbaum, "Introduction to Computer Power and Human Reason." The first twenty minutes of the class period were spent describing the overall position of the two authors on the subject of computers. Carl Sagan's essay is largely devoted to praising the advantages of robots, particularly when they are used to extend human activity in places where humans cannot go, such as outer space or the bottom of oceans. He also addresses replacement of human workers by robots, noting that workers can now devote their time to learning instead of to manual labor. Weizenbaum's essay cautions against too much faith in the capacities of computers in areas of human relationships. He expresses dismay about the notion that computers can replace psychologists or psychiatrists, a notion he himself involuntary introduced when he made a program called DOCTOR, where a computer has a conversation with a patient. He points out the limitations of programs such as these, and discusses how the logic of science does not, and should not, apply to human dilemmas. In this discussion, he addresses the schism between fields of knowing that Booth describes in The Modern Dogma as scientism and irrationalism, and points out that computer intelligence belongs to scientific ways of knowing, and not to the kind of knowing that involves human values.

The text discussion focusses on the above aspects, thus establishing the general positions of the authors. Then students formed small groups, and spent the rest of the period composing summaries of the readings. Each group summarized one text. Since there were two texts and five small groups, this assignment resulted in several summaries of the same text. The summaries were to be typed on ditto masters, enabling me to distribute them the next class.

B. Analysis:

In this class period, students have accomplished several steps relevant in the pedagogy. The texts provide the first steps of a pluralist perspective in this unit, because they posit conflicting positions on the value of computers. The students, in reading these texts, make their first acquaintance with the audience for their final argument papers. Also, the texts provide material for invention, because they each raise a number of issues to support their respective positions. In writing summaries of the text in groups, two things are accomplished. The writing itself serves as an exploration in expository form of a particular position. This exploration involves having the students list major arguments under a controlling generalization that expresses their overall position. Also, having to write a summary as a group is promotes discussion about the relevance of particular issues and arguments raised by the author, and to stimulate articulation of additional arguments for consideration for the final paper. The purpose of group work is additional invention activity.

Day 2

A. Assignments and activities:

For the second class period of the unit, the students have read two additional essays, Thomas Sheridan's "Seven Factors in Alienation," and Steven Levy's "Hackers in Paradise." Sheridan's essay discusses seven reasons why many people fear or resent computers, and offers as the main solution to the inevitable presence of the computer additional education for everyone. Levy's essay describes the author's visit to a computer center on a campus, where he was appalled by the alienation and isolation of computer programmers who have become obsessed with computers. These two essays introduce two more perspectives, with arguments that address some of the issues raised by the first two essays (computers replacing workers, the need for education, computers as effective tools) as well as arguments about new aspects (computers as threatening tools, as creators of a new elite with special powers).

We begin the period by reading and discussing the summaries written during the previous period. Then we discuss the views and arguments of the new texts, and add them to the inventory on the blackboard. We conclude by discussing our own responses to the various arguments.

B. Analysis:

The activity of sharing the summaries has several purposes. Since we have several summaries of each text, we can compare them. This helps us determine qualities of a successful summary. The comparison also allows me to point out how different people focus on different aspects based on their goals and interests. For example, the two summaries of the Sagan text cite different major arguments. One group focussed on computers as extensions of human activity, while the other group focusses on how computers also replace human workers, leading to the need for more education for the people who are replaced. Thus the notion that one's interests play a role in the selection of arguments is introduced at this early stage, laying the groundwork for the connection between arguments, warrants, and backings of the argumentative model described in the previous chapter. The discussion of the summaries also allows us to make an inventory of issues and arguments concerning the topic, which I record on the blackboard.

In the activities of this day, we have examined a form of writing, summaries; we have examined conflicting positions through all four class readings, thus getting to know our audience for the final paper; and we have inventoried a wide range of aspects and arguments relevant to the topic, adding to the invention process begun on the first day.

Day 3

A. Assignments and activities:

Because I want to teach different types of support, and need to provide minimal experience with the library according to departmental course requirements, we spend the third period on discovering how to find articles in the library. First we discuss the search procedure in class; then we go to the library, where I advise and help as needed while students look for an outside source on the topic.

B. Analysis:

This day is devoted to general education purposes. The students learn two academic conventions: the necessity of exploring the field of one's subject thorough library research, in order to discover the shared knowledge of the community of experts on the subject, and the convention of using such library research to prove one's familiarity with such knowledge and to bolster one's own position.

Day 4

A. Assignments and activities:

On the fourth day, the outside source is due. We spend the time in class discussing the exploratory assignment, which is a synthesis of all the texts: the four Borzoi readings and the student's outside source. For this assignment, I want the students to demonstrate an awareness of the relationship between communities and arguments. Consequently, we discuss the Borzoi readings again, this time trying to discover what community each author represents. The Borzoi conveniently provides a brief history of each author, so that we can determine their communities. We describe our expectations of the perspectives of these communities. Then we re-examine the texts, looking for key terms that express the community's values, in a version of Burke's ultimate term analysis. The degree of correspondence between the key terms we find in the texts on the one hand, and the values and perspectives we associate with the background information provided in the reader on the other hand, allows us to make some judgments about the position of each author in his community.

We find that Levy, who expresses the most negative view of computers, is an English major and a journalist. Sagan, who in this essay takes the perspective of the scientist without his usual humanistic overtones, has a clearly scientific educational and professional background. Sheridan, who is concerned with human values, but also assumes an assured future for computers, is employed at M.I.T., but is a psychologist by profession. Weizenbaum is a full-fledged scientist, but takes a divided position in that he defends the usefulness of computers while simultaneously limiting it to scientific activities. Thus we create a kind of map, where we have four communities with four types of goals and interests arranged along a line from pro to con: Sagan as the scientist most pro; Weizenbaum as the scientist with human interest pro with restrictions; Sheridan as the social scientist more con than pro; and Levy the humanist most con. Based on this discussion, students go home to write their synthesis.

B. Analysis:

In this period, we have addressed three aspects of the pedagogy. We have continued our audience exploration by identifying the different interested communities, their values and interests, and their respective arguments. We have also continued our exploration of the argument model, by further establishing values and interests as warrants for claims. And we have discussed a new form of expository prose, the synthesis.

Day 5

A. Assignments and activities--the exploratory draft:

The fifth period the synthesis is due. Class time is spent discussing argument techniques. We focus on two strategies: refuting one's opponent's arguments, and the types of support acceptable to this audience (logical, ethical and emotional). Again we go to the class readings, this time looking for argument strategies. We find that the Sheridan text does the most extensive job of refuting. Sheridan has seven bones to pick--seven types of alienation to discuss. For each, he explains first why people are afraid or threatened, and then why they should not be. His essay is organized around refutation. Sagan does relatively little with refutation. He begins by blaming fear of computers on human chauvinism, and later briefly addresses the issue of unemployment because of automatization in the work place. Most of his essay is devoted to support. Levy implicitly admits the inevitablity of computers, but, like Sagan, spends only a little time refuting views opposing his own. Weizenbaum clearly addresses a hostile audience, and spends a relatively large amount of time refuting, using, however, a different organizational strategy than Sheridan. Then we look for the kinds of support the four authors use, and find, in Sagan's text, that he uses primarily logical appeals, but also ethical and emotional appeals. For example, his use of the term "human chauvinism" to defend robots is both a moral and an emotional attack. Nevertheless, the true strength of his argument derives from his factual examples and descriptions--use of robots on the moon and on the deep ocean bottom.

B. Analysis:

The identification of these argument techniques through lecturing and class discussion allows us to discuss the rules for arguing in an academic context. Discussion of argument techniques and strategies is a way of discussing Toulmin's Warrants of argument for the academic community: Toulmin included in the notion of Warrants the collection of shared rules about how to argue. The class then identifies the types of argument that are most convincing to an academic audience, such as citation of facts, and reliance on established authorities or experts. Moral appeals, like Sagan's reference to human chauvinism, work well if used in conjunction with factual support and reliance on experts. Levy's type of support, interviews with individuals, provides a vivid picture, but lacks the broad scope of the other three essays.

The texts are vehicles for discussing the effectiveness of the different kinds of support learned over the course of the semester (personal narratives, interviews, and citation of sources), and for considering the value of that support in addressing different audiences and purposes. Also the different styles of refutation, and the different emphases on refutation, reflect a particular relation with the audience. Levy's text, for example, is intended to provide a new insight into a relatively unknown situation, "hacker" life. His use of interviews and personal narrative reflects a large distance between audience and subject, and a small distance between writer and audience. Visually expressed, the audience--writer--subject relationships of the text would look like this:

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audience-----------------------------------subject
   |                                          |
   |------writer----------------------------|
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Sheridan's text, organized around refutation, addresses an audience that does not understand why people would be threatened by computers. Thus he could be addressing two audience communities: those who are resistant to computers but do not fully understand why, and those who are quite positive about computers and do not understand why others resist them. These two potential audiences share a lack of understanding or fear regarding computers, so that Sheridan spends most of his essay explaining these fears, rather than focusing on arguing them away.

In this class period, we have continued to build on our argument model. In discussing the texts in periods 1, 2, and 4, the students and I have discussed the relationships between arguments and the value systems and interests of particular communities, which in the argument model developed in the preceding chapter were defined as the relationships between Claims and Backings. On this fifth day, we have addressed the relationship between audience communities and their conventions, in Toulmin's terms the Warrants.

Day 6

A. Assignments and activities--The final assignment:

The argument techniques are to be used in the final assignment, of which the first draft is due the next, sixth, class period. The final assignment asks students to defend their position on the use of computers to an audience that disagrees with them, using a library source, at least one Borzoi text, and personal experience for support. For the first draft, I asked them to concentrate of defining and defending a position, leaving the refutation for later drafts. In the revision workshop of period 6, students perform three tasks in small groups: they determine the best audience for each paper,which, according to the assignment, should be a disagreeing audience; evaluate each other's use of argument strategies (the effectiveness of the kinds of support used); and suggest ways to incorporate refuations.

B. Analysis:

Where on the fifth day of the unit students learned strategies of organization, on the sixth day they practise them. Conventional composition concerns, such as audience, development, and revision, are thus addressed in the context of the argument pedagogy. The effect of working in small groups, and thus having 3 or 4 editors per paper, is that invention also takes place at this stage, through group discussion, as in the groupwork of day 1. Assigning specific tasks to editors helps revision be substantial rather than superficial. Without such specific tasks, students are likely to understand both editing and revision as the occasion to improve spelling and handwriting.

Day 7

A. Assignments and activities:

In period seven, the second draft of the final assignment is due, including the refutation. In the workshop of this period, students, in small groups, evaluate each other's papers on the basis of the complete final assignment.

B. Analysis

The students have learned, since the beginning of the semester, that every aspect of the formal assignment must be addressed to receive a grade of C or higher. Thus, if they forget to use one type of support that was assigned, they receive less than a C. In this fourth assignment, this rule becomes particularly important, since the assignment is complicated and involved. Having students use the assignment as their workshop instruction sheet provides an occasion to check and double-check if everyone has fully understood and attempted all its aspects.

This class period serves to instill another academic convention, namely that instructions must be carefully followed. The academic community is, for this paper, the universal audience that encompasses the particular audiences individual students address in their essays. In terms of the pedagogy, this class period serves to verify and reinforce all its compository aspects: focus, support, and ability to manipulate conflicting points of view.

Day 8

A. Assignments and activities:

On the eighth day of the unit, our attention shifts to mechanical aspects of writing. The only time I address this aspect of writing is in these editing workshops. They are usually divided into two parts. The first twenty minutes I review the particular mechanical problem(s) I want students to focus on, while the rest of the period they read and correct each other's papers. The third draft, due this period, is thus expected to be in shape in terms of content, tone, and organization, so that class time is spent exclusively on attention to mechanical aspects of grammar and spelling.

B. Analysis:

The final draft of the final assignment of the unit is due the next period. This last draft will be graded. I have not read any of the preceding drafts, except for excerpts as I go around groups to assist, partly because there is no time to read and return drafts every period, and partly because I want students to learn to rely on themselves as editors. Part of the intent of the course is that students learn to become their own editors. Since they usually stay in the same groups, they get to know each other's idiosyncracies quite well, which adds to the effectiveness of their editing. Also, by staying in the same groups they have to overcome their shyness only once.

Evaluation of the fourth unit

The fourth unit of the course has been devoted predominantly to phases two and three of the pedagogy. The first four periods were devoted to Phase 2, where students are confronted with multiple points of view, and where they practise expository forms of writing. The last four periods (the ninth one does not count since no class time is spent on unit four) are devoted to Phase 3, where the student establishes her own viewpoint among those she encountered in Phase 2. The aims of the course, focus, support, and attention to audiences with different belief systems than the writer's, have been addressed throughout the unit. Focus and support have been discussed _in terms of_ audience. The pedagogy, by focussing on argument, makes concern with audience a high priority.

The course, as a whole, introduces traditional composition concerns developmentally. Types of writing are introduced developmentally, moving from narrative and expressive (Dualist) to expository: summary, synthesis, explanation, analysis (Relativist) to argumentative (Committed). Audience is introduced developmentally, moving from self and class (Dualist) to incoming freshmen and local citizens (Relativist) to a disagreeing audience (Committed). Focus is introduced developmentally, moving from stories to controlling generalization to 5W to thesis statement. Also support is introduced developmentally, moving from narrative support to original research (interviews) to library research (class and library text incorporation). The principle of development occurs on many levels.

III. A SOCIAL SCIENCE MODEL: MEDIA UNIT

Introduction

This unit was part of an English 102 freshman level Writing Across the Curriculum course, which serves as an introduction to academic writing across the disciplines. This course is a sequel to the Introduction to College Writing course, English 101. Where in 101 the students are introduced to the different kinds of writing used in most disciplines, such as explanations, summaries, arguments, and so on (as in section I of this chapter), in 102 students learn somewhat more discipline-specific modes of thinking and writing. The course is divided into four units. The first unit serves predominantly to teach use of the library and use of research as support, including practice in the use of summary, paraphrase, and quotation. The second, third, and fourth unit are each devoted to a field of knowing: the humanities, the social sciences, and the natural sciences. The course is aimed at establishing similarities and differences between these three fields in terms of habits of mind and habits of presentation.

The structure of each unit is in principle the same as the one I used in my syllabus for 101. About half of the preparation time for a paper is spent discussing texts about the topic as well as personal experience with the topic, focusing on Phases 1 and 2 of the pedagogy (Dualism and Relativism). The second half of the preparation time is spent writing, revising, and editing the exploratory and final assignments, focusing on Phase 3 (Commitment). Since an important aspect of the habits of mind of an academic sub-community is its ways of doing research, in the social science unit that I will discuss in this section I chose to have students do some social science-type original research in the form of a survey. The final assignment asks students to present the results of the survey as a social scientist would report her results. The audience for the assignment is college students. At this early level, it seemed unfair to ask students to address other social scientists, because this would require them to deal with too many new factors at once. So instead of having to pretend to be a social scientist as well as to address social scientists, the assignment asks them only to try to think like (be) a social scientist. In order to learn what it means to think like a social scientist, students have to do the same kind of audience exploration as when they would also have to address them. Addressing a student audience has the advantage of permitting a more general tone and vocabulary in the final product. This kind of audience lessens the cognitive load of an assignment. A student audience requires the writer to explain technical terms (jargon), thus habituating the writer very early to "translating" field-specific use of language into academy-wide accepted use of language. Hence the choice of a general audience is also intended to help the student see the connections between field-specific activity and academy-wide activity.

The long-term goal of this approach is to begin to stimulate inter-disciplinary communication. By imagining the academy as the universal community consisting of the particular communities of the fields and disciplines, we provide a basis for locating values shared by all disciplines in the academic community, and a basis for locating field-specific values in field-specific communities. The attempt to understand scholarly activity as the result of both academy-wide and field-specific goals and interests is intended to give the student a deeper understanding of scholarly activity in all academic fields of knowing. Such an understanding may lead to decrease a separation between self and subject (what good will this psych/physics/english/. . . class ever do me?). It may, in the long run, also lead to a bridge between the ever-more specialized, and hence more isolated, fields of academic endeavour. Although this specific unit was designed for freshmen, its principles can be applied to all university levels.

Below, I provide a calendar for the social science unit, followed by a day by day explanation of the purpose of each activity in the light of the pedagogy. Copies of the final assignment and survey sheet are in Appendix B. The topic for this unit was the effect of the media on its audience. The class periods were 75 minutes long, with two meetings per week.

CALENDAR FOR SOCIAL SCIENCE UNIT

Day #:	Homework:	Description of in-class activities:
1.	READ: section in research guide on APA style & in Fields, Milgram (p.329)	Discuss Milgram in terms of APA style
2.	READ: in Fields, Milgram (p. 681),	Discuss aspects of topic

		Caldwell (p. 512) & Knightly (p. 495)	as suggested by readings
3.	DUE :	potential questions for survey	Make survey; Discuss exploratory draft (intro and methods sections)
4.	DUE :	EXPLORATORY DRAFT	Revision workshop
5.	DUE :	Survey responses	Tally & interpret survey results
6.	DUE :	First draft of final assignment	Revision workshop
7.	DUE :	Second draft of final assignment	Editing workshop
	READ:	review APA documentation format.	
8.	DUE :	FINAL VERSION OF FINAL ASSIGNMENT	

The unit includes two kinds of texts. The first, Milgram's "Obedience and Disobedience to Authority" (329), serves as an example of the APA format. The other three texts, assigned for day 2, address aspects of the topic. (This division of types of texts is an accident of the reader used in the course. The reader did not contain a text that both exemplified the format I was looking for as well as addressed the topic.)

Day 1

A. Assignments and activities--conventions in the texts:

The first class period is spent discussing Milgram's study of obedience as an example of social science conventions about research and form of presentation. The text discussion is to serve as model for what the students are going to do themselves in their project for this unit: write a report on research done by the class, using social science conventions. We begin by discussing what Milgram intended to research in this study, and what he found. Having established a general shared understanding of Milgram's project, we move on to discuss the project in terms of social science conventions.

1. Conventions of the discipline:

In the research handbook, students have read how descriptions of original research often follow a format that uses four sub-divisions, frequently entitled Introduction, Methods, Data, and Discussion. I lecture on the why's and how's of these subdivisions, focussing on the following points. In the introduction, several things must be accomplished. The most important of these is stating the research question, or its tentative answer, the hypothesis. However, just like a thesis needs an introduction, so the hypothesis needs a context. This context can contain several elements, depending on the intended audience. First, a justification of the study can occur, addressing the question of why the study is relevant in a very general sense (what is the practical use of this study), or why the study is necessary in the context of other studies in the field (what does this study contribute to what is known based on the previous 117 studies on this topic). The first type of justification usually includes a discussion of the larger problem, while the second usually includes a discussion of the major previous studies on the topic. If the audience is within the discipline, the research review and the field-specific justification are more common. If the audience is more universal, then the general, practical justification with just a brief review of the research are more common.

The introduction section is followed by the methods section, in which the researcher explains how she sets up a testing situation. Here, she describes what variables are controlled, what measuring instruments she used, and so on. The methods section reflects how the individual researcher relies on community conventions. The degree of carefulness in adherence as well as consiously chosen deviations from standard methods are explained here. Students generally have a hard time understanding the difference betweeen the Methods and the Data sections, so I keep my explanation brief and try to show them by exemplification in a text, in this case Milgram's, and by having them divide their own research project into these parts. In the Data section, the researcher reports the results of the study, without interpretation. That last qualification is also difficult to understand for students because they have trouble distinguishing facts from interpretation. For example, if a poll shows that 45% of the subjects approve of Reagan's policies, and 28% disapproves, these numbers are the facts that belong in the Data section. The implications of those numbers belong in the Discussion section. For example, these numbers could show that people continue to approve of Reagan's policies despite recent scandals as a result of these policies. A comparison with a similar approval rate poll before the scandal could show that people in fact approve more now than before the scandal. An implication of this comparison could be that people are very tolerant of a person they like as much as they like Reagan; or it could be that people are initially defensive about their choice when they voted. This kind of speculation and interpretation occurs in the Discussion section, while the most objective aspects of a study, its methods and data, have their own sections.

The overall structure of the APA research report is in fact argumentative. In the introduction, an audience is convinced of the necessity of the dispute, and is given the claim or dominant position of the researcher in the hypothesis. The rest of the piece is intended as the proof of the hypothesis. This proof includes a demonstration of adherence to shared values in the Methods section, and a demonstration of familiarity with shared communal knowledge through quotation of relevant sources. Thus Aristotle's ethical means of persuasion is applied by the researcher when she proves she is an expert in control of accepted methods in the Introduction and Methods sections. His logical means of persuasion is used in the attempt at thoroughness and objectivity. The Data section in particular reflects the researcher's and the community's concern with facts as a form of logical proof. Emotional persuasion slips in, despite communal attempts at objectivity, in the vocabulary of the writer (for example, in speaking of victims instead of subjects, or vice versa; also, in her use of professional jargon as a vehicle to demonstrate her expertise), in the justification in the introduction section, and in the drawing of implications in the concluding Discussion section, which both reflect personal concerns.

The strict format of these four sections is a matter of convenience for community members. For example, if a researcher wants to verify the results of a particular study, she can quickly refer to the methods section in order to duplicate the methods originally used. Or, if a researcher decides to study a slightly different aspect of a particular topic, reference to the hypothesis in the introduction and to the methods section of the original study will provide her quickly with the information she needs to clarify the differences and similarities between the original study and her own. Or, if a researcher disagrees with the implications drawn from a particular study, she can copy the data in the Data section, and then proceed with her own views on the implications of these data. Thus the convention of the APA research presentation form exists to assist research within the community by making cross-referencing to important aspects of different studies as easy as possible.

While the APA style research presentation is shaped to the needs of the specific community of the social sciences, it also exemplifies general academic concerns. The form is a way of incorporating the three academic concerns of focus, support, and attention to conflicting positions in an efficient structure. The focus appears in the hypothesis, which, like the thesis statement, guides the subject and organization of the rest of the text. The support appears in the Methods, Data, and Discussion sections, conveniently subdivided into adherence to community specific conventions (Methods), facts (Data), and implications (Discussion). Attention to conflicting positions can appear in the Introduction and in the Discussion. In both sections, citation of other research is appropriate according to the APA style.

Attention to conflicting positions occurs in academia largely through reference to library sources. The importance of documentation can be explained as part of the academy-wide concern with conflicting positions.

2. Conventions in the class readings:

After my lecture on the APA style for research presentation, we look at the Milgram text, and try to identify the aspects I identified in the lecture. Milgram's text is addressed to an audience broader than his own discipline, judging by the strategy he uses in the introduction. He refers to the Bible and to a famous philosopher to create a context for the conflict that is the subject of his study. Although his first sentence states the general subject of his study, the actual research question appeals toward the end of the section: "If an experimenter tells a subject to hurt another person, under what conditions will the subject go along with this instruction, and under what conditions will he refuse to obey" (Milgram 330). Milgram's subsequent sections, entitled Terminology, Subject Populations, The General Laboratory Procedure, and Pilot studies, are all concerned with the methods used in this study. This text has the advantage of describing aspects of what social scientists are likely to put in a Methods section in its subdivisions of the more conventional section. The titles of the subdivisions sufficiently explain the kinds of concerns pertaining to a Methods section.

The next section, Immediacy of the Victims, provides the data obtained from the experiment. The sections Closeness of Authority and Tensions function as elaborations on the data. In the section entitled Background Authority, Milgram begin to evaluate the value of his study, thus moving into the Discussion section of his report. Here he discusses specific methodological strengths and weaknesses of his own study. In the next section, Further Experiments, Milgram discusses some of the follow-up studies he did himself, and suggests questons raised by the research that need further investigation. This latter move is a convention that most researchers adhere to in their reports: making suggestons for future research. This is in part a sign of modesty; the writer implicitly says, "I know this is not the definitive work on the issue," thus also affirming her loyal membership in the community. It is also a way of expanding the area for research. It an be a justificaton for future research by the writer herself, or it can be an encouragement for other researchers to follow her footsteps. In both cases, to borrow Kuhn's terminology, the area for normal research is increased. The last sections, Levels of Obedience and Defiance, and Postscript, are devoted to discussing the broad implications of the study. Here Milgram's personal concerns emerge most clearly, in accordance with the conventional speculative nature of the section. This concludes the introduction of the field-specific and academy-wide conventions.

Day 2

A. Assignments and activities--conventions in the texts:

On the second day of the unit, we begin to address aspects of the topic of the unit, the effect of the media on its audience. For this period, students read three texts, each introducing an aspect and a position. The Caldwell text addresses the effect of television on the way the audience perceives women. It discusses the relationship between dominating images in society, the images that television perpetuates, and the factual roles of women in the community. She focusses on the portrayal of women in commercials. The Knightly text discusses television news shows, focussing on the question of the effectiveness of television news in "revealing the true nature" of issues, in this case, the Vietnam war, and in changing people's attitudes towards those issues (Knightly 496). He explains how the form of newsreporting affects the content, and hence shapes the influence of tv news on the audience. Milgram, in "Confessions of a News Addict," discusses the changed role of news in society, looking at newspapers as well as at television news, claiming a transformation in purpose, from provding information to providing entertainment. Thus the three texts address different aspects of the media, ranging from television commercials to television news to newspaper news, and focus on different issues: the role of women, the function of news, the relationship between entertainment and information.

The students have been asked to bring to class a response they have written to the text that most appeals to them, because they are interested in the subject, or because they agee or disagree with the author's views. These personal responses are the basis of the discussion. I ask students to read their responses, organized text by text. Thus whoever wrote on Caldwell gets to read her response, which is used to discuss the text and possible points of view on the issues Caldwell raises. Then we move on to the next text, and repeat the process.

B. Analysis:

While the first period was thus devoted to Phase 2 in that it examined community conventions for general education purposes as well as for the particular community of the field of social science, in the second period we take a step back and talk about our personal relationships to the topic, exploring Phase 1 of the pedagogy. The students are then instructed to make questions for the survey they are to conduct. They are to focus these questions to their area of interest, which is preferably the one addressed by the text they chose to respond to.

Day 3

A. Assignments and activities:

In the third class, students are grouped according to the text of their interest, to refine and organize their questions. (A copy of the survey questions can be found in Appendix B.) This groupwork is preceded by an explanation of how the survey will be conducted, who will be surveyed, and how to avoid leading questions. Each student will be provided with a list of all the questions of each group, so that we reach as large a group of subjects as possible. Thus, even though student Annie may want to write her paper about the Caldwell text, she will still ask the questions for the other texts of her subjects in order to help provide her fellow students with sufficient data. We agree on how many subjects each student will interview, and what population group will be our target. We discuss the relevance of different categories for dividing the target group so that comparisons can be made: gender, age, occupation, religion, political affiliation, income level, and so on. We decide, as a class, on two groups, age and gender. Thus each student will interview one young male, one old male, one young female, and one old female, where young and old are determined as fixed age groups.

Day 4

A. Assignments and activities--the exploratory draft:

The exploratory draft is due on the fourth day. This is to be the first two sections of the APA format, the Introduction and the Methods. By assigning the writing of the Methods section before the results of the survey are in, I hope to help the student understand the distinction between Methods and Data. In the introduction, they are to provide their hypothesis or research question, contextualized by a discussion of the general relevance of their topic, by reference to the topic text they chose as their starting point, and by incorporation of one library source on the topic. In the Methods section, they are to provide a report on our class discussion about how to set up this survey. They can describe the categories of subjects we chose to interview, and explain why those particular ones were chosen. They can also describe the total number of subjects, and the questions that their small group created for their particular topic. During the fourth class period, this exploratory draft is brought to class, and subjected to peer editing, based on the conventions for these sections as discussed in previous periods.

Day 5

A. Assignments and activities:

The fifth period the survey responses are due. We spent the class period tallying the results on the board, thus preparing for the Data section of their papers. Students copy those parts relevant to their particular paper. Then we discuss potential implications of the results, preparing for the Discussion section of their papers. For the sixth period, students bring their first complete draft of their research reports to class, having added the Data and Discussion sections to their exploratory drafts. Their papers are edited in groups according to the "Survival Sheet" I provided (see Appendix B), which consists of a summary, section by section, of the elements and concerns of each part of the APA format. They revise according to their editors' comments, and bring the revision to class on the seventh day of the unit. They also review APA documentation format, and one aspect of grammar. The seventh period is spent editing each others papers for the assigned grammar feature and for appropriate documentation.

Evaluation of the unit

Phase 3 of the pedagogy is begun in the second period, when the student chooses an essay to respond to. Ideally, the concerns of this essay will form the basis of her own study, thus forming the seed of her decision on her own position among the conflicting ones she will encounter in class and, possibly, in her own research. Of course, students change their minds, have not done their homework, want to change topic midway, and so on. Their choice of area for making survey questions is a second opportunity to shape their position on the issue. Then, in the exploratory draft, they have to have pinned down their position to a research question or a hypothesis. The revision workshops and subsequent drafts give them ample opportunity to revise and refine the hypothesis, which reflects their own position. Thus phase 3 is present very early, and increases in importance as the unit progresses.

The development of phase three parallels the development of focus of the final paper. The support is predominantly provided by original research, the survey, which was conducted (as much as possible given the restraints of the situation) according to the conventions of the field. As references to other studies, students have used one library source, and one of the class readings. Both are documented in APA style, according to field-specific convention. Thus the three academy-wide concerns of focus, support, and attention to conflicting opinions, have been attended to in the specific forms of the particular community, the social sciences. The kinds of writing examined in this unit reflect the kinds of writng of the pedagogical Phases: personal response (to the Fields texts) as Dualistic writing; the Methods and Data sections as Relativistic writing because they report on community conventions, and the Introduction and Conclusion sections as Committed writing because they express the writer's position in the midst of conflicting positions.

IV. A HUMANITIES MODEL: ARTS UNIT

This unit was part of the same English 102 course as the social science unit described in the previous section. In the social science unit, I separated discussion of community conventions and discussion of the topic into two types of text because of the structure of the reader. In this humanities unit, this separation is also present, though less obviously. Here, all the texts exemplified community values, but only two were analyzed to determine community conventions regarding methodologies. In extremely general terms, I defined the subject area of the social sciences, in the previous section, as a concern with human behavior patterns, and the subject area of the humanities as a concern with moral and aesthetic values of individuals. (I recognize that this definition of the humanities is tenuous and debatable, but while the subject area of the natural sciences and social sciences are fairly easily defined, the humanities are unwieldy, given that the field includes such diverse disciplines as philosophy, classical and modern languages, and the fine arts.)

Our topic was values as expressed in the arts. The final assignment asked students to convince an audience of Humanities majors to hold a particular value as exemplified in an artist or an artistic event. The readings of the unit presented artists and artistic events, and were analyzed in order to determine the value(s) the authors distinguished in their essays, as a way of introducing the idea that concern with values is central to the humanities field. That is, concern with values was proposed as a community-specific convention of humanities disciplines. Two of these texts were also analyzed to determine community-specific methodologies.

Below, you find the calendar for this unit, followed by a day by day explanation of the purpose of each activity in the light of the pedagogy. A copy of the final assignment is in Appendix C. The class periods were 75 minutes long, with two meetings per week.

CALENDAR FOR HUMANITIES UNIT

Day 1	Homework:	Description of in-class activities:
1.	(Due: final draft of previous unit)	In class, read & report in small groups on Fields texts White,p.11; Keaton, p.38; Duncan, p.41; Star Wars, p.451
2.	READ: in Fields, King Kong, p.207 & Football Red, p.251	Discuss methodological conventions of humanities
3.	DUE : Two page value statement & Library source	Read statements out loud in class
4.	DUE : EXPLORATORY DRAFT READ: in Fields, Arguing p.441	Revision workshop
5.	DUE : First draft of final assignment	Revision workshop
6.	DUE : Second draft of final assignment	Editing workshop

READ: grammar in handbook
7. DUE : FINAL DRAFT OF FINAL ASSIGNMENT

Day 1

A. Assignments and activities:

In the first period of the unit, we began by trying to define the general subject area of the humanities field, resulting in the definition cited above. The class then divided into small groups. Each group was assigned to read one text in the Fields reader, and to determine which values their text was most concerned with. The last part of the period was spent listening to the reports of each group, so that each text was discussed via the group reports.

B. Analysis:

The group activity serves multiple functions. The assigned analysis is a Burkian analysis of ultimate terms, leading to identification of shared concerns of the community of which the author is a member. Thus inroads are made on defining the warrants of the field of study in the unit. Also, peer-education takes place, because some will be faster at identifying the requested aspects than others. This helps the weaker students improve their reading and analytical skills through modelling and imitation, and helps the stronger students cristallize their own understanding because they are forced to verbalize their perceptions. Moreover, the group report they are composing is an exercise in focus and support, because their report is a selective summary intended to provide the students of other groups with an interpretive structure that will facilitate their reading of the texts they did not study in class. This interpretive structure follows academy-wide conventions of focusing, generalization, and support.

1. Conventions in the texts:

The central concerns of each text were identified as follows. White discusses the beauty of a circus act while it is practised as preferable to the actual performance, because during practice the act is stripped of the glamour of the environment and must stand on its own merit. The merit of the act he witnesses, a girl performing acrobatics on horseback, consists of three aspects. One is the beauty of the performer, primarily due to her youth. The second is the symbolism in her act. The performer and the horse go around in circles. The circle is seen as an illusionary moment of timelessness, which the author perceives as reflective of the illusions of the innocence of youth. The third aspect is the merit of the act stripped of the glamour of a performance, which lies in the drive, inner desire, and exuberance of youth. All three aspects are related to a reflection on youth and the illusion that time can stand still. The Keaton text is an analysis of Buster Keaton as a comedian. The author ascribes Keaton's success predominantly to his ability to use a dead pan facial expression to illustrate how humans can have "an awe-inspiring sort of patience and power to endure" (Agee 39). The Duncan text discusses the art of Isadora Duncan's dancing as the natural expression of feeling, which was an innovation in the socio-historical context of the time. The Star

Wars text consists of two reviews of the movie Star Wars, one negative and one positive. Kauffman rejects the movie as oversimplified, and as an embarrassing idealization of chastity and youthful innocence. Christ praises the movie as harmlessly comforting because, as a recreation of a childhood fantasy, it provides "the comforting assurance that the good will flourish happily ever after" (Christ 453).

2. Conventions of the discipline:

The last text is particularly valuable for discussing concern about values as a community convention, because the two authors review the same movie based on the same aspect, its simplicity, and have opposite reactions to this aspect. This illustrates how community conventions suggest both an emphasis on values and an emphasis on personal stance toward these values. In contrast to the other fields of knowing, in the humanities there is a particularly strong emphasis on the individual's position, beliefs, and attitudes. As will be discussed in the second period, this does not mean that there is no systematic methodology or shared theory. Rather, it is a matter of relative importance. In the humanities, a researcher (or scholar or critic) uses systematic, socially determined structures to interpret experience in order to enrich personal understanding as much as to enrich the understanding of the field. This emphasis on personal discovery is less strong in the social and natural sciences.

Day 2

A. Assignments and activities:

For the second period, students read the essays they did not read in class with the help of the interpretive models from the group reports, and also read two newly assigned essays. These latter essays are used to discuss methodologies typical of the humanities.

B. Analysis--conventions of the discipline:

In "Football Red," the author applies a metaphor to popular sports in order to express a particular perspective on American culture. He describes the shift in popularity of baseball to football as a shift in the cultural appreciation of heroic figures, which signifies a shift in its values. The baseball player is depicted as a kind of pastoral fool figure, who is loveable in his human fallibility. The football player is depicted as a humanized machine--a perfected human, alone and invincible. According to the author, the growing popularity of football reflects an increase in the combativeness of the cultural self-image. The class discussion of this text focuses on how the author establishes the parallels between the mythic images and the sportsmen point by point, paragraph by paragraph. This helps students see how to develop a paragraph, and how to develop support for a generalization, as well as how to approach a subject through systematic, careful analysis according to humanities traditions. The text discussion serves both to instill composition principles and to highlight community-specific conventions.

The second text, "King Kong," is discussed in the same manner. The essay is an analysis of the continuing popularity of the movie classic.

In pointing out aspects of the appeal of the movie, the author simultaneously analyzes the character of the movie's audience. The text resembles the "Football Red" essay in that it makes connections between a cultural symbol and the culture through a systematic analysis of related aspects. The discussion of this text proceeds along the same lines, for the same reasons, as the discussion of "Football Red." These two class periods have been devoted to exploration of audience expectations, in order to acquaint the student with the conventions of the humanities, and in order to prepare them for the argument they have to write as their final assignment. These two periods have been devoted to Phase 2 of the pedagogy, introducing new points of view and underlying value systems, to establish the plurality that is characteristic of the Relativist stage.

Day 3

In the third class period, we move back to Phase 1 of the pedagogy. The students must write a two page description of a value that concerns them. This is the first preparatory writing they do for the final assignment. The value they choose must relate to a value addressed in one of the Field's texts, so that they can use that text as support in the final paper. They can take whatever position they choose towards the value, and in this assignment merely need to express a personal opinion, illustrated with personal incidents to show how they learned the value. The preparatory assignment serves as an exploration of their Dualistic position. They must also locate a library source to be used as support in their final essay. Class time is spent on reading the value statements to the class, in order to stimulate discussion about their opinions. This discussion is intended as further invention and exploration of individual positions, as well as a further exploration of audience in an argumentative situation through peer response.

Day 4

A. Assignments and activities:

The fourth class period their exploratory draft is due. The assignment for the exploratory paper is to summarize the texts they plan to use in their final assignment as support: the text they chose from the reader, and their library source. These summaries are organized around general statements about the value they wish to address in their final paper. Class time is spent on two activities. First, the section in the reader on argument techniques is discussed, re-emphasizing the need to support a position, preferably on the terms of the intended audience. The rest of the period is spent in workshop groups, where students evaluate each other's success in relating their texts to the value that will be the focus of their final paper.

B. Analysis:

The summaries serve to practice treating a text as support for a position, which involves interpreting a text according to a cognitive category they themselves have defined. This is a valuable skill for general education purposes as well as specifically in the humanities.

They also practice an expository form of writing where they have to explain to a basically sympathetic but less informed audience. Again, the group work serves to continue invention through dialogue, and to start revision. Here revision and invention are difficult to distinguish, illustrating the recursiveness of the writing process. Also, the student's awareness of audience is sharpened, because the clarity of her explanations is tested.

Day 5

The first draft of the final assignment is due the fifth period. The first part of the period is spent reviewing the argument techniques we began to address last period (for a discussion of these techniques, see section one, this chapter). Based on the audience analysis the class performed with the readings of this unit, some assumptions about the audience for their papers can be made. For instance, although the assigned audience, humanities majors, can, as members ofthe humanities community, be expected to be convinced of the importance of values, individual positions on a given value may vary considerably. Thus there is a need for some refutation, not about the need to care, but about the need to care in a particular way. The second part of the period is spent in small groups, revising papers. The revision instructions are to look for focus (does the thesis reflect the main position? do all the paragraphs serve to support this position?), and for use of argument techniques, particularly the refutation. The students use their peer's comments to revise their drafts. These revisions are due the sixth period. They also read the handbook sections on a particular grammar feature, and the research guide to verify MLA documentation style. Class time in the sixth period is spent reviewing the grammar feature and the documentation style, followed by small group editing for these features. Students revise at home; the final draft of this paper is due the seventh period.

Evaluation of the unit

This last part of the unit was aimed at developing Phase 3 of the pedagogy, where the student selects a commitment in the context of conflicting positions. The process of selecting a position began in the pre-writing assignment for the third period, and was continued in the class discussion of that period and in the writing and rewriting of the fifth and sixth period. The academy-wide writing conventions of focus, support, and attention to other points of view were addressed throughout the unit. Focus was highlighted particularly in the pre-writing assignment and in the revision workshop for the first complete draft. Support was highlighted through modelling in the text discussion of period 2, through personal illustration in the pre-writing assignment, through textual support in the exploratory draft, and through the revision workshops of both exploratory and final assignment drafts. Attention to other viewpoints was addressed through text discussion in the first and the second period, through peer response in the class discussion of the third period, through lectures and readings on argument techniques, and through peer response in the revision workshops. The kinds of writing practised in this unit also reflect the pedagogical stages. The pre-writing assignment is the Dualistic exploration of one's personal position, using personal experience and narration. The exploratory draft is a Relativist exploration of perspectives of others, addressed to a sympathetic but less informed audience, and hence expository rather than persuasive. The final assignment reflects the Committed position of the student, taking the persuasive form that belongs to the third Phase of the pedagogy.

V. A NATURAL SCIENCE MODEL

Introduction

This unit on writing in the natural sciences was part of a junior level advanced writing course. The organization of the course was very similar to English 102, with two differences. There was no separate paper devoted to acquisition of library skills, and, in addition to three shorter papers, one for each academic field of knowing, students had to write a long term paper in the discipline of their choice. The natural science unit was the first unit in the course. Although in fact we spent time on preparations for the term paper right from the beginning, I will present the sequence of the natural science unit's periods as if uninterrupted by these activities. As a reader, we used Lee Jacobus's A World of Ideas. The texts in the natural science section of this reader were treated as examples of changes in the research paradigms, in Kuhn's sense, over time. The final assignment asked the students to find several articles on a scientific topic, and to critique the articles in terms of one of the paradigms exemplified in the Jacobus reader. This critique was to be addressed to a general audience, which meant an explanation of the paradigm as well as an explanation of the topic of their choice was required, in lay terms. The audience for this unit is the same as the audience for the social science unit described in section 2 of this chapter, for very similar reasons. Here, the cognitive load needs to be reduced because of the complexity of the concepts (three research paradigms) that must be mastered to do the assignment, and because the aim of this particular course was to introduce a natural science perspective to students of a variety of backgrounds, to most of whom natural science activities were alien.

Unlike in the other models, the final assignment in this unit is not to write an argumentative paper. This is partly due to the nature of the natural sciences, where the emphasis is on expository dialogue between members of the same community, not on arguments between different schools of thought. Nevertheless, the structure of lab reports in the natural sciences is the same as the APA research model I discussed in the social science unit, so that an assignment could have been created very similar to the one in the social science unit, where the class would do a particular experiment, and the final assignment would be the lab report of the experiment. However, doing an experiment of sufficient complexity to make the reports interesting really requires a student population of natural science majors, and preferably a laboratory where such experiments could be carried out. Also, since the model would be explored in the social science unit, using the same format for the natural science paper was likely to become dull. The final assignment is structured so that the kind of relationships between communities (based on a shared research paradigm) had to be explored in the same way as an argumentative assignment would have required.

The full text of the writing assignments are in Appendix D. Below I provide the calendar for this unit, followed by a day-by-day discussion of the activities and assignments. The class periods in this course were 75 minutes long.

CALENDAR FOR NATURAL SCIENCE UNIT

Day #:	Homework:	Description of in-class activities:
1.	READ: In Jacobus, Bacon p.327 & Darwin p.395 JOURNAL: writing assignment #2 on p.342	Discuss texts and writing assignment
2.		In-class experiment & report writing
3.	READ: In Jacobus, Kuhn p.400 JOURNAL: writing assignment #2 on p.427	Discuss text and writing assignment
4.	DUE: EXPLORATORY (a summary of your own sources for your classmates. Focus on hyp-methods-results in articles	Share summaries in groups & evaluate for clarity; suggest model applications
5.	DUE : First draft of final assignment	Revision workshop
6.	DUE : Second draft of final assignment READ: in handbook, review paraphrase, quotation, and summary; in research guide, APA documentation	Editing workshop
7.	DUE: FINAL DRAFT OF FINAL ASSIGNMENT	

Day 1

A. Assignments and activities--community conventions in the texts:

For the first period, students read the Bacon and the Darwin text, and write a journal entry in respopnse to a writing assignment in the book. The three readings that form the core readings of the unit, Bacon's, Darwin's, and Kuhn's texts, are presented as changes in the self-perception of the discipline. Bacon's views represent the very early self-image of the field, where pure objectivity was the goal. Bacon's text discusses four "idols," or attitudes that interfere with this objectivity. The Darwin text is used to model the self-image that was dominant in the early twentieth century, and that is still adhered to by many scientists today. As the introduction to Bacon's text explains, the main difference between Darwin's procedures and Bacon's understanding is that Bacon believed that after sufficient observation, the truth would leap out at the observer, whereas Darwin's procedures presuppose a creative structuring of a hypothesis on the part of the observer. Further observation is then used to prove the hypothesis; this is where the attempt at objectivity becomes important in the Darwinian paradigm. Thus the Darwinian paradigm, unlike Bacon's paradigm, allows for creativity, and hence a degree of subjectivity, on the part of the scientist. Where to Bacon the "idols" or subjective attitudes are a danger throughout the research process, in Darwin's paradigm they are a danger predominantly in the process of collecting data to prove the hypothesis. In the Kuhnian model, the attitudes that Bacon sees as a danger become features that the researcher must recognize as unavoidable aspects of her research paradigm. The three paradigms reflect a change in attitude toward the possibility and role of objectivity in scientific research.

B. Analysis:

In the first period, the differences between Darwin's and Bacon's paradigms are discussed. Thus community-specific conventions about presentation of research are introduced, representing activity for the Relativist Phase of the pedagogy. The journal exercise, which asks the students to consider which idol affects them most personally, allows the student to make connections with the community-specific conventions on a personal, Dualistic level.

Day 2

Since the research presentation model (see the APA presentation model discussed in section 2, this chapter) is difficult to grasp for students also at this level, the second period of the unit is spent practising its use. We used a very simple experiment, using a bottle of soda and a balloon. The balloon is attached to a freshly opened soda bottle. The bottle is then shaken gently. The balloon is supposed to blow up because of the gasses released by the motion. I explained the experiment, and asked one student to perform it in front of the class. The other students were asked to record their observations of the experiment. Students were then asked to share their notes with the class.

B. Analysis:

Since most students were not natural science students, they had done a very skimpy job of recording. As a class, we rewrote the observations with the kind of attention to detail and use of technical terminology typical of the sciences. For example, several students had noted the color of the balloon. However, since the color had no bearing on the experiment, a natural scientist would have omitted such a reference. On the other hand, few students noted exactly how long or how many times the bottle was shaken before the balloon began to swell, and many of them included their explanations for the experiment in their observation notes. Students spent the rest of the period writing a conventional lab report on the experiment, and verifying each other's reports in small groups. The period served as a further exploration of the conventions of the natural science community, pertaining to the Relativist Phase of the pedagogy, an also served to introduce a new, community-specific form of expository writing, the lab report.

Day 3

The third period of the unit was spent on discussing the Kuhn text and the journal assignment, which asked the students to evaluate science education as Kuhn described it. The Kuhn text introduces his notion of paradigms and scientific revolution in the context of a lecture about the kinds of qualities educators should identify in students as suggestive of potential success in the natural sciences. The journal entries were used as the vehicle to start discussion about the concepts Kuhn's text introduces. Then we went back to the Bacon and Darwin texts, and put their understanding of their contemporary research conventions next to Kuhn's as three separate but related paradigms, belonging in three different periods, with the understanding that Kuhn's paradigm is a new and not (yet) completely accepted paradigm.

Day 4

A. Assignments and activities:

For the fourth period, students were to have selected a topic of their choice in the natural sciences field, and to have located three articles about their topic. In the exploratory draft due this period, they were to have summarized these articles with focus on the underlying hypothesis and research.

B. Analysis:

Some of their articles were in the form of lab or research reports, so that the categories of the lab report (hypothesis, methods, data, results) were easy to locate. However, most of their articles were addressed to a more general audience, and did not follow the categories as obviously. They had practised locating the underlying categories in a text addressed to a general audience in the Darwin reading, which has that particular structure. The writing assignment was designed to have them practise the application of these conventional categories on their own, to further familiarize them with natural science conventions.

Class time was spent in small groups, where students read each other's summaries twice, once to see if they understood the subjects their fellow students had chosen, and once to see which of the three research paradigms (Bacon, Darwin & Kuhn) best connected with the particular topic. The first workshop task was designed to allow writers to test their degree of clarity for a general audience. Even novice scientists like most of these students were have a tendency to adopt technical terms they have recently learned without regard for their audience's familiarity with these terms. The workshop is a good place to discover such often unconscious adoption of jargon. The second task was designed to aid invention of the final paper, in which the students were to discuss their topic in terms of one of the models. The small group provided an opportunity to try out the applicability of each model to a particular topic.

Day 5

A. Assignments and activities:

The fifth period the first draft of their final paper was due. In this draft, they were to provide an explanation of one or more of the natural science research models, followed by an application of these models to their own sources. Class time was spent in a revision workshop, where students evaluated each other's success in explaining and applying the model(s) of their choice, as another audience test for the writers. The sixth period their second draft was due. They were also to have reviewed their handbook on research incorporation skills (summary, paraphrase and quotation), and their research guides on proper documentation format. The first part of the period was spent reviewing these skills, and the second part was spent in workshop groups, where students read each other's papers to verify correct use of these skills. The final draft of the final assignment was due the seventh and last period of this unit.

B. Analysis:

The assigned application of the research paradigms to their topics left students with multiple options for their papers. For instance, the application of the Bacon model would allow the student to discuss her sources in terms of the four idols. This could mean a critique of her sources, evaluating them in terms of the success or failure of the authors of her library articles to be objective. An application of the Darwin model would be an identification of the underlying structure of the labreport categories, as practised in the discussion of the Darwin text and in the workshop on the explratory draft. An application of the Kuhn model could involve a discussion of the library sources as exemplifying communal conventions, much like an application of he Darwin model. Or, the Kuhn model could be used to determine whether articles represented normal research or evolutionary research. Or, the Kuhn model could be used to evaluate the degree of subjectivity authors of library articles allowed themselves as a result of, or despite, communal conventions.

The assignment asked students to be aware of the same kinds of aspects of communication they would have to have been aware of in order to write an argumentative paper according to the argumentative model introduced in this study. They had to know and understand the interests, values, and subsequent conventions of communities other than their own: scientists in Bacon's time, in Darwin's time, and followers of Kuhn. They had to understand how such conventions shape the perception of community members. They also had to apply the academy-wide conventions of focus, support, and attention to conflicting perspectives. Their focus was an explanation of a research paradigm. Their support was the analysis of their library research according to the paradigm. The attention to conflicting views was present in tat they had to understand and express conventions of a scientific community to an audience unfamiliar with such conventions.

Evaluation of the unit

The three phases of the pedagogy are addressed in the unit. The first Phase is addressed in the journal exercises, where students can explore their own responses to the material introduced through the class readings, and in the class discussion of the texts based on their journal entries. The second Phase of the pedagogy is addressed through the introduction of the class readings, which introduce communities and their conventions, through the expository writing of the exploratory summaries, where an explanation of new information is presented to a sympathetic but uninformed audience, and through the workshops which function as testing of a general audience through peer response. The third phase of the pedagogy is addressed primarily in the choice of a research model as a structure underlying, or applicable to, the students' library sources, because here the student takes a position amid community conventions. Also, the successful establishment of connections between the model and the library sources can be seen as reflective of an understanding of inter-communal relations, which is characteristic of a person who has transcended the confusion of merely recognizing the existence of plurality of perspectives.

APPENDIX A

EXPLORATORY ASSIGNMENT FOR UNIT 4: COMPUTERS

Write a synthesis of the four texts we read from Borzoi and the source you found in the library. In a synthesis, you summarize the content of the texts, and arrange the ideas according to importance. Thus, if three out of five authors make the same point, you don't have to repeat that idea three times; you can state that x, y, and z agree on that idea. The point of a synthesis, then, is to group ideas, so that the writer and the reader get a sense of what the major ideas on the issue are.

So, I do not want five separate summaries, nor five paragraphs discussing one text each. Arrange your discussion according to major ideas.

To do this, the fastest method seems to be to

1. make outlines of each separate text; then
2. see where authors agree and disagree; and
3. re-arrange the material so that the major ideas come first.

Remember to indicate clearly which authors support which ideas.

FINAL ASSIGNMENT FOR UNIT 4: COMPUTERS

Write an argument in about five pages (800-1000 words) about the merits and/or dangers of computers.

You have to take a position, and hence have a thesis statement. You must persuade an audience that does not agree with your position. You need to consider the views of your disagreeing audience seriously, but you also have to show that your arguments are better.

To support your position, you can use personal experience, experiences of your friends and acquiantances. Also, you must use at least one of the Borzoi texts, and you must use one source you found yourself in the library. Do not use general hypothetical examples without support.

The Borzoi texts can help you support your own arguments, and can also help you understand and find weaknesses in the arguments of your disagreeing audience.

APPENDIX B

FINAL ASSIGNMENT FOR THE SOCIAL SCIENCE UNIT: MEDIA

The theme of this unit is the effect of the media on our society. Write a 4 to 5 page typed paper (1000-1200 words) about your hypothesis if the media's effect on its audience. Your paper should open with a definition of the problem. You should include three types of support:

1. original research (the class survey)
2. one professional article which studies your topic
3. one of the texts in Fields.

The audience for your essay is college students. You need to persuade them of your views. Use APA documentation style.

SURVIVAL SHEET FOR THE SOCIAL SCIENCE PAPER

In this paper, you are assuming the role of a social scientist. You had a hypothesis about an aspect of the general topic (the effect of the media on its audience). You then decided to do a survey to test your hypothesis. The class helped you gather data for your survey. Now you are writing your report. To write a social science research report, you must follow a particular format, which consists of four parts. In each part, you must do specific things. Each part has a subheading. What follows is a list of the parts, with an itemization of common aspects to address in each part.

I. Introduction

1. Explain briefly why you researched this topic. How is this study important to your audience? To what social issue or problem is your study related?
2. Cite relevant reseach. One professional article, and the Fields text of your choice
3. Your general research question, follwed by your hypothesis. This does two things: it indicates what aspect of the general topic you will address, and it indicates your expectations of the reseach.

II. Methods

1. Define the terms that need defining; terms that you used in questions, like "war" (Are you asking about a specific war or about war in general? does Granada count as a war?) or, as in question 11, "patriotism."

2. Describe the subjects you surveyed: how many in total, what kinds of groups, how many in each group, why you chose these particular groupings, where these subjects come from (it is a local survey), and so on.
3. Describe the questions of the class survey that pertain to your hypothesis, and explain why yuou asked them--what did you want to discover?

III. Data or results

1. Describe the results of the survey with numbers; convernt them into percentages; also use tables or graphs if you can. Use only the categories relevant to your topic. So, present the results twice, once in a table or graph, and once in a description.

IV. Discussion or Conclusion

1. Explain what conlusions or inferences you can draw form your results. For example, if there is a big difference between responses of young people versus old people, why do you suppose this is the case?
2. Discuss the results of the survey in terms of your introducrtion.Are your results similar or different from what you found in your library research? And do the results of the survey confirm your hypothesis? If so, how? If not, why not?
3. Discuss the weaknesses of the survey. What questions (relevant to your topic!) were misleading?
4. Suggest possibilities for further research. Should a different group be surveyed? A larger group? Should other kinds of questions be asked, for example to explain the differences you found between groups but are not sure how to explain?

The social science paper is not all that different from previous papers. You still need to put your opinion in the context of research. The differences are mainly that you have done original research (the survey), so that your facts come from a different place, and that you use a specific format to discuss your views and those of others. The format is primarily a pattern of organization, that helps you remember to discuss all aspects.

SURVEY FOR SOCIAL SCIENCE UNIT

1. Check one: Male___ Female___
2. Check your age group: 18-25___ 35-55___
3. Do you watch television news? yes___ no___
4. Do you think exprlicitly gruesome and bloody scenes of warfare on network news should be censored? yes___ no___

5. If you answered yes to #4, should the networks be responsible or should the government intervene? Government___ Networks___
6. If you anwered no to #4, should these gruesome scenes be shown at prime time? yes___ no___
7. Should actual bombings be telecasted live on televsion? yes___ no___
8. Do you think live coverage of a war adds or diminishes support for that war? adds___ diminishes____
9. When should the press be notified about the government's military actions? beforehand____ as they take place____ afterward____
10. Should the press be allowed to film, but not immediately broadcast, military actions as they occur? yes___ no___
11. Do you think unbiased coverage of military actions a) increases patriotism___ b) decreases patriotism___ c) does not affect patriotism___
12. Are you more interested in a) local news____ b) national news____ c) international news___
13. Are you more interested in a) crime reports___ b) disaster reports___ c) financial news___ d) political events____
14. Do you subscribe to or regularly read a newspaper? yes___ no___
15. Do newspaper pictures of [people dying make you feel a) that war and military actions should be avoided___ b) protective and supportive of American soldiers____ c) indifferent____
16. Do you think coverage of the political aspects of the Lybyan attack has been a) more extensive on television___ b) more extensive in newspapers___ c) not sure____
17. Do you feel that the threat of economic sanctions will have an effect on the outcome of the Lybyan situation? yes___ no ___
18. Has press coverage of the Libyan attack changed your opinion and awareness a) to support the US military action____ b) to disagree and regret the military action___ c) no change, still support military action___ d) no change, still do not support military action___ e) no opinion ___
19. Do you feel that the press is providing an accurate account of the true nature of the political dispute between Libya and the US ? yes___ no____
20. Do you feel that the press sufficiently presents the views of Libyean citizewns? yes___ no___
21. Do you feel that televsion news sufficiently presents the views of Libyan citizens?

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22. Do you think women are currently being treated demeaningly in t.v. shows? yes___ no___
23. Which characteristics best describe the following actresses (choose more than one)

24. Do you think women are portrayed more realistically a) in tv

shows___ b) in tv commercials___ c) the same in tv shows and commercials___

25. Most women in tv shows are treated as (check one) a) professionals___ b) intelligent___ c) silly___ d) maternal and domestic___ e) glamorous___ f)damsel in distress___
26. Do most tv commercials show men or women as the head of the household? men___ women___
27. Does this role portrayal in commercials affect the way the US perceives the role of men and women? yes___ no____
28. Who do you feel is the best spokesperson for a t.v. commercial? a) sexy woman___ b) sexy man___ c) distinguished woman___ d) distinguished man___ e) homely woman___ f) homely man___
29. Has there been a role reversal in commercials since 1970? yes___ no___
30. Do you think commecials should treat men and women as equals? yes___ no___ maybe ___

31. Commericials portray women as a) ecstatically happy over household cleanliness____ b) Deeply depressed over failure to achieve perfection in household tasks___ c) fearful of not looking attractive___

APPENDIX C

FINAL ASSIGNMENT FOR THE HUMANITIES UNIT

Write a 4 to 5 page typed essay (800-1000 words) in which you try to convince your audience, Humanities division majors, to hold a particular value. You will use an artist or an artistic event to exemplifiy this value. You will use 3 outside sources about the artist/event, plus one text in Fields (select one among those we read for this unit).

Use your sources as support; the focus of the paper is on your arguments about the value of your choice. Remember to address counter arguments.

Use MLA documentation style.

Grading criteria:
- argument strategy: counterarguments; emotional, ethical and logical appeals
- paragraphdevelopment
- interpretation of artist/event as exemplifying value
- proper in-text references and bibliography
- genral mechanical correctness

APPENDIX D

EXPLORATORY ASSIGNMENT FOR NATURAL SCIENCE UNIT

Summarize your library sources so that your classmates will learn the essentials about your chosen topic. Organize your summaries around the research the articles are based on, by trying to uncover the underlying hypothesis -- methods -- results -- implications structure.

FINAL ASSIGNMENT FOR NATURAL SCIENCE UNIT

Write a 4-5 page essay (800-100 words) in which you explain one of the perspectives on natural science research we studied in the Jacobus text. Then show how this perspective applies to the research you did on your own topic. Your audience is a group of interested citizens that have a general education background, but are not particularly well-versed in natural science research methods. The purpose of this essay is to demonstrate how research in the natural sciences follows particular conventions about methodology, assumptions about the finality of the findings, and so on.

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In 1975, she took French at the Sorbonne in Paris, and in 1976 she attended the Universiteit van Amsterdam, majoring in pedagogy (pedagogie). In 1977, she entered the American system at Deree Pierce College in Athens, Greece, majoring in English. In 1978, she continued her American education at New England College, first at the British campus in Arundel, Sussex, then in Henniker, New Hampshire. She received the degree of Bachelor of Arts, Summa Cum Laude, with a major in English in 1981, as well as the Board of Trustee's Academic Achievement in the Humanities Award and the Student Services Award.

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